

• Session: 2023-2024 • Course: B.Tech • Year: 2nd • Section: B

Attendance between 0 - 100 (%age)

Semester Type: Odd

S.NO	Student ID	Roll Number	Name	Father Name	Paper Codes	Total Class	Attend ed	(%age)
1	230110403		Harshit Kumar Sharma	Vinod Kumar Sharma	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	346	196	56.65
2	230110317		Mohit Kumar Kashyap	Mahesh Kumar Kashyap	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	447	277	61.97
3	220110405	2200820100065	Harsh Rastogi	Mukesh Rastogi	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	181	42.79
4	220110415	2200820100066	Harshit	Late Pushpendra	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	214	50.59
5	220110373	2200820100067	Harshit Chahal	Neeraj Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	230	54.37
6	2201155084	2200820100068	Harshit Chauhan	Late Rajeev Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	167	39.48
7	2201154161	2200820100069	Harshit Sondhi	Gagan Sondhi	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	229	54.14
8	220110170	2200820100070	Harshit Tomar	Sushil Tomar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	334	78.96
9	220110154	2200820100071	Himanshu	Pritam Saini	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	245	57.92
10	220110111	2200820100072	Himanshu Sagar	Pavnesht Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	254	60.05
11	220110359	2200820100073	Honey Saini	Naveen Saini	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	213	50.35
12	220110024	2200820100074	Indrajeet Singh	Rohitash Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	226	53.43
13	220110060	2200820100075	Ishit Tyagi	Vishal Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	331	78.25
14	220110219	2200820100076	Jamul Abedeen	Mehndi Hasan	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	215	50.83
15	220110054	2200820100077	Jitender Singh	Gajender Singh	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	250	59.1
16	220110081	2200820100078	Kali Agarwal	Sandeep Agarwal	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	305	72.1
17	220110159	2200820100079	Kamini	Sanjay Singh	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	368	87
18	220110004	2200820100081	Kapil Dev Singh	Manvir Singh	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	264	62.41
19	220110393	2200820100082	Karishma Singh	Ashok Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	361	85.34
20	220110022	2200820100083	Kartik Kumar	Sanjay Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	205	48.46
21	220110162	2200820100084	Komal Rani	Tilak Raj	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	387	91.49
22	220110172	2200820100085	Kuldeep Saini	Mr Ramkishor	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	315	74.47
23	220110089	2200820100086	Kushagra Bhatnagar	Mr. Abhishek Bhatnagar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	236	55.79
24	220110190	2200820100087	Madhav Tomar	Nirdesh Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	154	36.41
25	220110356	2200820100088	Magan Mehrotra	Manu Mehrotra	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	290	68.56
26	220110075	2200820100089	Manish Kumar	Sunil Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	308	72.81
27	220110252	2200820100091	Manya Bhardwaj	Sanjay Bhardwaj	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	280	66.19
28	220110371	2200820100092	Mohammad Adnan	Mohammad Imran	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	233	55.08
29	220110166	2200820100093	Mohammad Kaif	Mohd Talib	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	256	60.52
30	220110407	2200820100094	Mohd Arham	Mohd Shameem	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	124	29.31
31	220110196	2200820100095	Mohd Azeem	Mohd Tahir	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	191	45.15
32	220110375	2200820100096	Mohd Faisal	Mohd. Irfan	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	226	53.43
33	220110050	2200820100097	Mohd Saqlain Ansari	Ishtiyahq Ahmad	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	423	265	62.65
34	220110113	2200820100098	Mohd Zaid	Akhil Ahmad	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	425	244	57.41
35	220110063	2200820100099	Mohit Kumar	Mr. Subhash	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	241	56.44
36	220110120	2200820100100	Mohit Saini	Dharmveer Singh	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	196	45.9
37	220110134	2200820100101	Naman Saxena	Vishal Saxena	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	232	54.33
38	220110028	2200820100102	Navneet Singh	Brijesh Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	272	63.7
39	220110183	2200820100103	Nikhil Agarwal	Ajay Agarwal	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	308	72.13

Director  
 Moradabad Institute of Technology  
 Ganga Vihar, Phase-2  
 Moradabad

2.2.1 a  
 2023-24



40	220110048	2200820100104	Nikhil Diwakar	Rajendra Diwakar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	214	50.12
41	220110226	2200820100105	Nirbhay Singh	Kuldeep Singh	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	241	56.44
42	220110030	2200820100106	Nischal Sharma	Pradeep Sharma	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	235	55.04
43	220110164	2200820100107	Nitin	Samarpal Singh	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	301	70.49
44	220110094	2200820100108	Ojit Chauhan	Alok Chauhan	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	367	85.95
45	220110082	2200820100109	Om Agarwal	Pradeep Kumar Agarwal	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	267	62.53
46	220110224	2200820100110	Pari Dubey	Anupam Dubey	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	281	65.81
47	220110188	2200820100111	Paridhi Gupta	Pawan Gupta	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	305	71.43
48	220110049	2200820100112	Parush Chaudhary	Devendra Singh	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	163	38.17
49	220110012	2200820100113	Piyush Chauhan	Tamesh Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	252	59.02
50	220110357	2200820100114	Piyush Kumar	Dal Chand	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	213	49.88
51	220110352	2200820100115	Piyush Varshney	Manoj Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	288	67.45
52	220110176	2200820100116	Pragati Yadav	Chetan Swaroop Yadav	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	283	66.28
53	220110007	2200820100117	Prakhar Singh	Amit Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	199	46.6
54	220110106	2200820100118	Praval Tyagi	Sanjeev Tyagi	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	317	74.24
55	220110025	2200820100119	Praveen Agarwal	Sanjay Kumar Agarwal	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	227	53.16
56	220110153	2200820100120	Priyanshi Sharma	Shrikant Sharma	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	249	58.31
57	220110069	2200820100121	Priyanshu Chauhan	Surendra Singh	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	193	45.2
58	220110149	2200820100122	Priyanshu Kumar	Aman Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	221	51.76
59	220110114	2200820100123	Punit Kumar	Vijendra Singh	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	275	64.4
60	2201155440	2200820100124	Purnima Shirshwal	Rakesh Shirshwal	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	276	64.64
61	220110191	2200820100125	Rachit	Amit Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	241	56.44
62	220110026	2200820100126	Rangoli Saini	Rajeev Saini	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	283	66.28
63	220110163	2200820100127	Rantidev Choudhary	Sudeep Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	275	64.4
64	220110370	2200820100128	Rishav Chaudhary	Pradeep Kumar	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	304	71.19
65	210110107	2100820100073	Harsh Kumar Sharma	Pramod Kumar Sharma	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	37	8.67
66	210110231	2100820100074	Harsh Saini	Kailash Chandra	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	37	8.67
67	210110272	2100820100079	Jatin Saini	Mahipal Singh Saini	COE-2, BCS302, BCC301, BCS301, BCS303, BAS303, BCC302, BOE**, BAS301, BVE301, BCS352, BCS351, BCC351, BCE353	427	40	9.37

  
 Director  
 Moradabad Institute of Technology  
 Yam Ganga Vihar, Phase-2  
 Moradabad



• Session: 2023-2024 • Course: B.Tech • Year: 2nd • Section: B

Attendance between 0 - 100 (%age)

Semester Type: Even


S.NO.	Student ID	Roll Number	Name	Father Name	Paper Codes	Total Class	Attended	(%age)
1	230110403		Harshit Kumar Sharma	Vinod Kumar Sharma	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	315	177	56.19
2	230110317		Mohit Kumar Kashyap	Mahesh Kumar Kashyap	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	315	216	68.57
3	220110405	2200820100065	Harsh Rastogi	Mukesh Rastogi	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	117	37.62
4	220110415	2200820100066	Harshit	Late Pushpendra	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	127	40.84
5	220110373	2200820100067	Harshit Chahal	Neeraj Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	145	46.62
6	2201155084	2200820100068	Harshit Chauhan	Late Rajeev Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	94	30.23
7	2201154161	2200820100069	Harshit Sondhi	Gagan Sondhi	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	114	36.66
8	220110170	2200820100070	Harshit Tomar	Sushil Tomar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	268	86.17
9	220110154	2200820100071	Himanshu	Pritam Saini	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	182	58.52
10	220110111	2200820100072	Himanshu Sagar	Pavnesht Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	150	48.23
11	220110359	2200820100073	Honey Saini	Naveen Saini	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	132	42.44
12	220110024	2200820100074	Indrajeet Singh	Rohitash Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	146	46.95
13	220110060	2200820100075	Ishit Tyagi	Vishal Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	220	70.74
14	220110219	2200820100076	Jainul Abedeen	Mehndi Hasan	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	118	37.94
15	220110054	2200820100077	Jitender Singh	Gajender Singh	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	154	49.52
16	220110081	2200820100078	Kali Agarwal	Sandeep Agarwal	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	196	63.02
17	220110159	2200820100079	Kamini	Sanjay Singh	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	279	89.71
18	220110004	2200820100081	Kapil Dev Singh	Manvir Singh	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	178	57.23
19	220110393	2200820100082	Karishma Singh	Ashok Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	279	89.71
20	220110022	2200820100083	Kartik Kumar	Sanjay Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	129	41.48
21	220110162	2200820100084	Komal Rani	Tilak Raj	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	270	86.82
22	220110172	2200820100085	Kuldeep Saini	Mr Ramkishor	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	197	63.34
23	220110089	2200820100086	Kushagra Bhatnagar	Mr. Abhishek Bhatnagar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	164	52.73
24	220110190	2200820100087	Madhav Tomar	Nirdesh Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	137	44.05
25	220110356	2200820100088	Magan Mehrotra	Manu Mehrotra	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	169	54.34
26	220110075	2200820100089	Manish Kumar	Sunil Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	204	65.59
27	220110252	2200820100091	Manya Bhardwaj	Sanjay Bhardwaj	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	214	68.81
28	220110371	2200820100092	Mohammad Adnan	Mohammad Imran	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	111	35.69
29	220110166	2200820100093	Mohammad Kaif	Mohd Talib	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	166	53.38
30	220110407	2200820100094	Mohd Arham	Mohd Shameem	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	82	26.37
31	220110196	2200820100095	Mohd Azeem	Mohd Tahir	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	147	47.27
32	220110375	2200820100096	Mohd. Faisal	Mohd. Irfan	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	104	33.44
33	220110050	2200820100097	Mohd Saqlain Ansari	Ishtiyahq Ahmad	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	311	184	59.16
34	220110113	2200820100098	Mohd Zaid	Akhilak Ahmad	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	156	50.98
35	220110063	2200820100099	Mohit Kumar	Mr. Subhash	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	150	49.02
36	220110120	2200820100100	Mohit Saini	Dharmveer Singh	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	142	46.41
37	220110134	2200820100101	Naman Saxena	Vishal Saxena	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	149	48.69

  
 Director  
 Moradabad Institute of Technology  
 Ram Ganga Vihar, Phase-2  
 Moradabad




38	220110028	2200820100102	Navneet Singh	Brijesh Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	169	55.23
39	220110183	2200820100103	Nikhil Agarwal	Ajay Agarwal	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	189	61.76
40	220110048	2200820100104	Nikhil Diwakar	Rajendra Diwakar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	143	46.73
41	220110226	2200820100105	Nirbhay Singh	Kuldeep Singh	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	162	52.94
42	220110030	2200820100106	Nischal Sharma	Pradeep Sharma	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	143	46.73
43	220110164	2200820100107	Nitin	Samarpal Singh	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	169	55.23
44	220110094	2200820100108	Ojit Chauhan	Alok Chauhan	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	222	72.55
45	220110082	2200820100109	Om Agarwal	Pradeep Kumar Agarwal	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	169	55.23
46	220110224	2200820100110	Pari Dubey	Anupam Dubey	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	198	64.71
47	220110188	2200820100111	Paridhi Gupta	Pawan Gupta	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	233	76.14
48	220110049	2200820100112	Parush Chaudhary	Devendra Singh	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	110	35.95
49	220110012	2200820100113	Piyush Chauhan	Tamesh Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	153	50
50	220110357	2200820100114	Piyush Kumar	Dal Chand	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	117	38.24
51	220110352	2200820100115	Piyush Varshney	Manoj Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	182	59.48
52	220110176	2200820100116	Pragati Yadav	Chetan Swaroop Yadav	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	221	72.22
53	220110007	2200820100117	Prakhar Singh	Amit Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	134	43.79
54	220110106	2200820100118	Praval Tyagi	Sanjeev Tyagi	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	198	64.71
55	220110025	2200820100119	Praveen Agarwal	Sanjay Kumar Agarwal	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	174	56.86
56	220110153	2200820100120	Priyanshi Sharma	Shrikant Sharma	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	187	61.11
57	220110069	2200820100121	Priyanshu Chauhan	Surendra Singh	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	147	48.04
58	220110149	2200820100122	Priyanshu Kumar	Aman Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	145	47.39
59	220110114	2200820100123	Punit Kumar	Vijendra Singh	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	151	49.35
60	2201155440	2200820100124	Purnima Shirshwal	Rakesh Shirshwal	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	188	61.44
61	220110191	2200820100125	Rachit	Amit Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	178	58.17
62	220110026	2200820100126	Rangoli Saini	Rajeev Saini	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	168	54.9
63	220110163	2200820100127	Rantidev Choudhary	Sudeep Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	173	56.54
64	220110370	2200820100128	Rishav Chaudhary	Pradeep Kumar	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	204	66.67
65	210110107	2100820100073	Harsh Kumar Sharma	Pramod Kumar Sharma	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	44	14.38
66	210110231	2100820100074	Harsh Saini	Kailash Chandra	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	29	9.48
67	210110272	2100820100079	Jatin Saini	Mahipal Singh Saini	COE-2, HTCS401, MNP401, BCC402, BVE401, BCS453, BCS452, BCS451, PDP-2, BAS403, BCS401, BCS402, BCS403	306	32	10.46

  
**Director**  
**Moradabad Institute of Technology**  
**Ganga Vihar, Phase-2**  
**Moradabad**

 In Pursuit of Excellence	List of Bright students	Academic Year- 2023-24 Sem - 3 <sup>rd</sup> (Odd)
		Subject Name:- Digital Electronics Subject Code: BOE310


S.NO.	ROLL NO	NAME	SEC
1	2200820100021	Akshita	A
2	2200820100026	Ananya Agarwal	A
3	2200820100048	Devansh Goyal	A
4	2200820100070	Harshit Tomar	B
5	2200820100116	Pragati Yadav	B
6	2200820100110	Pari Dubey	B

  
Director  
Moradabad Institute of Technology  
Ganga Vihar, Phase-2  
Moradabad

 <p>In Pursuit of Excellence</p>	<b>List of Weak students</b>	Academic Year- 2023-24 Sem - 3 <sup>rd</sup> (Odd)
		Subject Name:- Digital Electronics Subject Code: BOE310


S.NO.	ROLL NO	NAME	SEC
1	2100820100002	Aarohi	A
2	2100820100031	Anirudh Sirohi	A
3	2200820100055	Divyansh	A
4	2100820100073	Harsh Kumar Sharma	B
5	2100820100074	Harsh Saini	B
6	2100820100079	Jatin Saini	B

  
**Director**  
 Moradabad Institute of Technology  
 Ganga Vihar, Phase-2

 In Pursuit of Excellence	<b>TUTORIAL 1</b>	Academic Year- 2023-24 Sem - 3 <sup>rd</sup> (Odd)
		Subject Name-: Digital Electronics Subject Code: BOE310

Sr. No.	No. of Periods	Topic/ Sub Topics	Coverage Date				Sign
			A1	A2	B1	B2	
1.	1.	Number System and its arithmetic Signed binary numbers	Section A				

- Convert the following numbers with the indicated bases to decimal:  
(a)  $(4310)_5$       (b)  $(198)_{12}$       (c)  $(435)_8$       (d)  $(345)_6$
- What is the largest binary number that can be expressed with 16 bits? What are the equivalent decimal and hexadecimal numbers?
- Determine the base of the numbers in each case for the following operations to be correct:  
(a)  $14/2 = 5$       (b)  $54/4 = 13$       (c)  $24 + 17 = 40$ .
- The solutions to the quadratic equation  $x^2 - 11x + 22 = 0$  are  $x = 3$  and  $x = 6$ . What is the base of the numbers?
- Convert the hexadecimal number 64CD to binary, and then convert it from binary to octal.

  
 Director  
 Moradabad Institute of Technolog.  
 Ganga Vihar, Phase-2  
 Moradabad





In Pursuit of Excellence

Practice Questions for Bright Students


Academic Year- 2023-24  
Sem - 3<sup>rd</sup> (Odd)

Subject Name:- Digital  
Electronics  
Subject Code: BOE310


1	Use the Quine Mc Cluskey method, Simplify: $Y = \sum m(1,3,5,8,9,10,11,15) + d(2,13)$	CO 1
2	Given the 8 bit data word 01011011, generate the 13 bit composite word for the Hamming code.	CO 1
3	Design a combinational circuit that converts a four-bit Gray code to a 4 bit four binary number.	CO 2
4	Design and implement the logic circuit to find 2's complement of a 4 bit binary number.	CO 2
5	Construct a state diagram for synchronous decade UP/DOWN counter. The mode control; 'M' decides the pattern of counting operation. When M=0 Counter counts UP and when M=1, counter counts DOWN. When counter reaches terminal count Y=1 (for UP count) and Z=1 (for DOWN count). Label the state diagram in M/YZ mode	CO 3
6	Design a synchronous counter using JK flip-flops to count the sequence 0,1,2,4,5,6,0,1,2 use state diagram and state table	CO 3
7	Design a primitive state diagram and state table for a circuit with two asynchronous inputs (X and Y) and one output Z. This circuit is to be designed so that if any change takes place on X and Y, Z is to change states. Assume initially that the two inputs never change simultaneously.	CO 4
8	Design a sequential circuit with two flip flops A & B and one input x. when x = 0, the state of the circuit remains the same and when x = 1 the circuit passes through the state transitions from 00 to 01 to 11 to 10 back to 00 and repeat.	CO 4
9	Design a BCD to excess-3 code converter using ROM.	CO 5
10	Design a combinational circuit that accepts a three bit number and generates an output binary number equal to the square of the input number. Implement it using ROM.	CO 5

*Craft*  
Director  
Moradabad Institute of Technology  
Ram Ganga Vihar, Phase-2



 In Pursuit of Excellence	<b>Practice Questions for Weak Students</b>	Academic Year- 2023-24 Sem - 3 <sup>rd</sup> (Odd)
		Subject Name-: Digital Electronics Subject Code: BOE310

1	Simplify using K-map $F(A,B,C,D) = m(0,2,4,5,6,8,10,15)$ . Implement the Reduced function using NAND gate only.	CO 1
2	Convert the following Boolean function from a sum-of-products form to a simplified product-of-sums form.  $F(x, y, z) = \Sigma (0, 1, 2, 5, 8, 10, 13)$	CO 1
3	Write down the truth table of full subtractor and implement the circuit .	CO 2
4	What is magnitude comparator? Design a 4bit magnitude comparator.	CO 2
5	Explain the working of J-K Flip-Flop.	CO 3
6	Elaborate the characteristic equations of S-R and J-K Flip-Flops.	CO 3
7	Illustrate the working and applications of Asynchronous sequential circuits	CO 4
8	Define the state reduction steps for a machine.	CO 4
9	Draw the basic circuit of DTL NAND gate. Explain the operation.	CO 5
10	Describe the difference between PAL & PLA using neat diagram and suitable examples.	CO 5

  
**Director**  
 Moradabad Institute of Technology  
 Ram Ganga Vihar, Phase-2  
 Moradabad

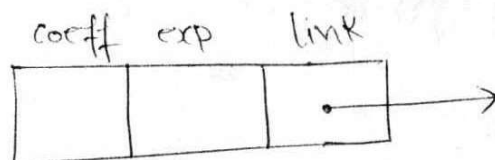
linked lists are widely used to represent and manipulate polynomials. Polynomials are the expressions containing number of terms with non-zero coefficients and exponents  
eg.

$$P(x) = a_n x^{e_n} + a_{n-1} x^{e_{n-1}} + \dots + a_1 x^{e_1} + a_0$$

where,  $e_i$  is an exponent  
 $a_i$  is a non-zero coefficient

In the linked representation of polynomials, each term is considered as node. And each node contains 3 fields:

- ① → coefficient field.
- ② → exponent field.
- ③ → link field.



⇒ logical representation of the node is

struct pnode

{


int coeff;

int exp;

pnode \* next;

};

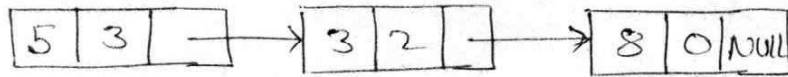
MJ

  
Director  
Moradabad Institute of Technology  
Ram Ganga Vihar, Phase-2  
Moradabad



ex →

$$5x^3 + 3x^2 + 8 \quad (\text{list 1})$$



## Addition of two polynomials represented using singly linked list

### Algorithm

- ① → let  $P$  &  $Q$  be two polynomials to be added.  
let  $Z$  be third polynomial in which the result of addition is to be stored.
- ② → let  $P_1$  &  $P_2$  are temporary pointers used to traverse first( $P$ ) & second( $Q$ ) polynomials respectively.
- ③ → while ( $(P_1 \neq \text{NULL}) \& \& (P_2 \neq \text{NULL})$ )  
compare the exponents of two polynomials starting from the first node.
  - 3(a) → if ( $P_1 \rightarrow \text{exp} == P_2 \rightarrow \text{exp}$ ) then,
    - (i) → add the coefficients & store it in the resultant linked list.
    - (ii) → (Move both  $P_1$  &  $P_2$  to next node)  
 $P_1 = P_1 \rightarrow \text{next}$   
 $P_2 = P_2 \rightarrow \text{next}$

3(b) → if  $(p1 \rightarrow \text{exp} < p2 \rightarrow \text{exp})$  then

- (i) → add the node pointed by  $p2$  to the resultant list  $Z$ .
- (ii) → Move  $p2$  to next node  
( $p2 = p2 \rightarrow \text{next}$ ).

3(c) → if  $(p1 \rightarrow \text{exp} > p2 \rightarrow \text{exp})$  then

- (i) → add the node pointed by  $p1$  to the resultant list  $Z$ .
- (ii) → Move  $p1$  to next node  
( $p1 = p1 \rightarrow \text{next}$ ).

④ → Append the remaining nodes of first & second polynomials to the resultant list.

⑤ → return.

ex → ① → 
$$p = 10x^7 + 9x^5 + 3x^4 + 2x^2 + 7$$

$$q = 4x^6 + 3x^5 + 2$$

steps

- (i) →  $Z = 10x^7$
- (ii) →  $Z = 10x^7 + 4x^6$
- (iii) →  $Z = 10x^7 + 4x^6 + 12x^5$
- (iv) →  $Z = 10x^7 + 4x^6 + 12x^5 + 3x^4$
- (v) →  $Z = 10x^7 + 4x^6 + 12x^5 + 3x^4 + 2x^2$
- (vi) →  $Z = 10x^7 + 4x^6 + 12x^5 + 3x^4 + 2x^2 + 9$

Mkg



ex (2) →

$$p = 10x^7 + 9x^5 + 3x^4 + 2x^2 + 7$$

$$z = 4x^6 + 3x^5$$

Steps

$$(i) \rightarrow z = 10x^7$$

$$(ii) \rightarrow z = 10x^7 + 4x^6$$

$$(iii) \rightarrow z = 10x^7 + 4x^6 + 12x^5$$

$$z = 10x^7 + 4x^6 + 12x^5$$

Now, when  $p_1$  &  $p_2$  move to next node  $p_2 = \text{NULL}$   
∴ while condition becomes false.

Hence, w.r.t. (4) steps of algo. we add remaining nodes of polynomial  $p$

$$(iv) \rightarrow z = 10x^7 + 4x^6 + 12x^5 + 3x^4 + 2x^2 + 7$$

MK



Director  
Moradabad Institute of Technology  
Ram Ganga Vihar, Phase-2  
Moradabad

# Generalized Lists

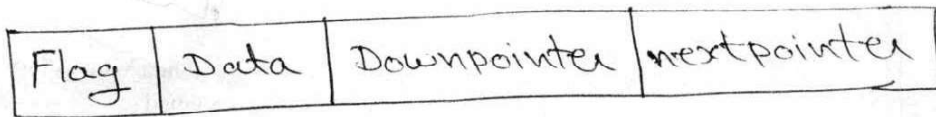
A generalized list, A, is a finite sequence of  $n \geq 0$  elements,

$$A = d_0, d_1, \dots, d_{n-1}$$

where,  $d_i$  is either an atom or a list.

The elements  $d_i$ , ( $0 \leq i \leq n-1$ ) that are not atoms are said to be the sublists of A.

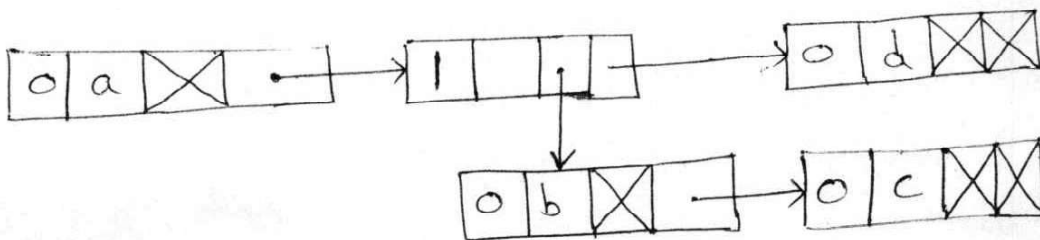
Now, to represent such a list we will have foll. node structure.



if Flag = 1 means down pointer exists  
Flag = 0 means ~~down~~ pointer do not exist:

## example of GLL

①  $\rightarrow (a, (b, c), d)$






## Compaction

The process of moving all used (marked) nodes to one end of memory and all the available memory to the other end is called compaction, and an algorithm that performs such a process is called a compaction algorithm.

Compaction is required because, memory is often required in blocks (groups of contiguous nodes) rather than as single discrete nodes one at a time.

MHJ

  
Director  
Moradabad Institute of Technology  
Ram Ganga Vihar, Phase-2  
Moradabad

# Generalized Lists

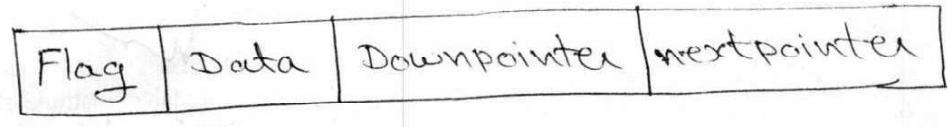
A generalized list, A, is a finite sequence of  $n \geq 0$  elements,

$$A = d_0, d_1, \dots, d_{n-1}$$

where,  $d_i$  is either an atom or a list.

The elements  $d_i, (0 \leq i \leq n-1)$  that are not atoms are said to be the sublists of A.

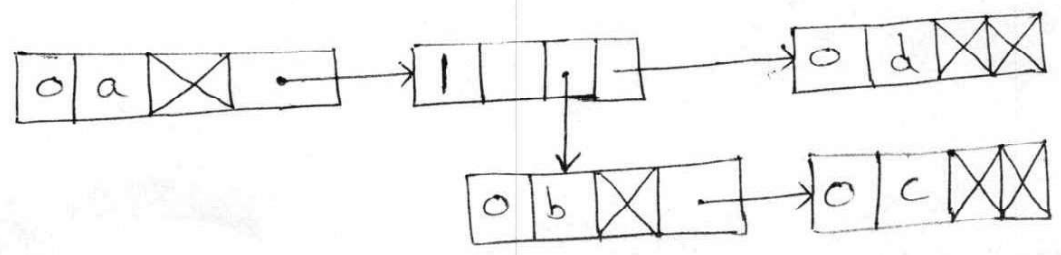
Now, to represent such a list we will have foll. node structure.



if Flag = 1 means down pointer exists  
 Flag = 0 means ~~down~~ pointer do not exist:

## example of GLL

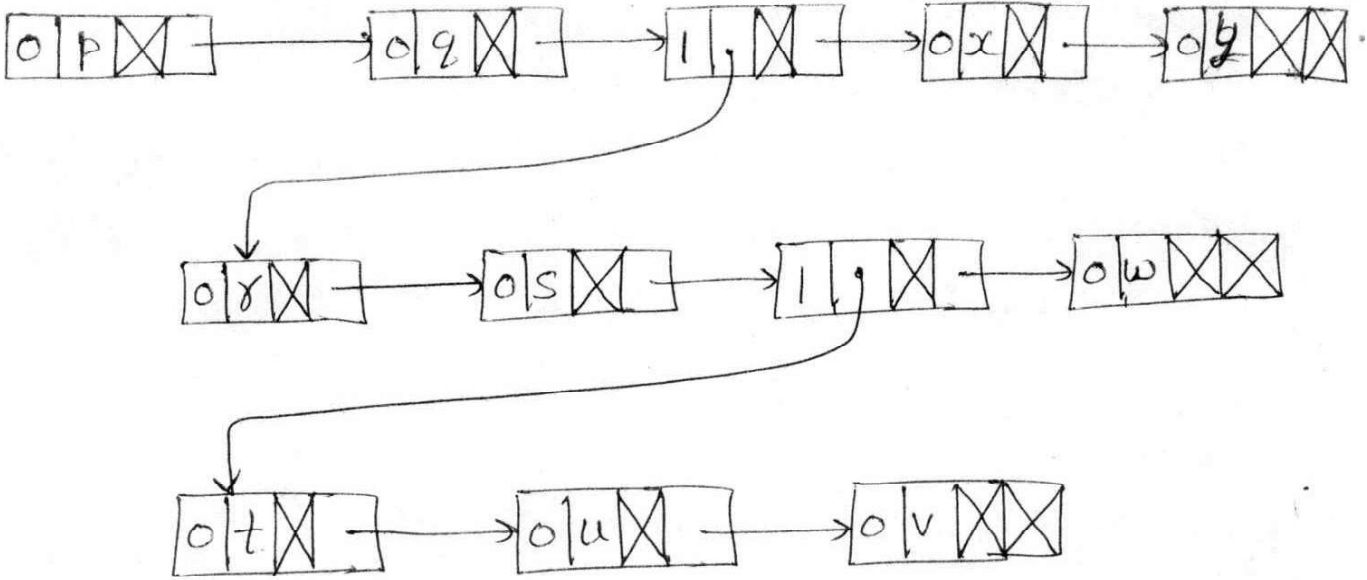
①  $\rightarrow (a, (b, c), d)$



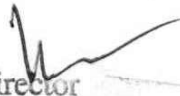
MHJ

Q →

$(p, q, (r, s, (t, u, v), w), x, y)$



MHP

  
Director  
Moradabad Institute of Technology  
Ram Ganga Vihar, Phase-2  
Moradabad



All are also used to represent polynomials

$$P(x,y,z) = x^{10}y^3z^2 + 2x^8y^3z^2 + 3x^8y^2z^2 + x^4y^4z + 6x^3y^4z + 2yz$$

If we used linear lists, then a node is of the form

coef	exp <sub>x</sub>	exp <sub>y</sub>	exp <sub>z</sub>	link
------	------------------	------------------	------------------	------

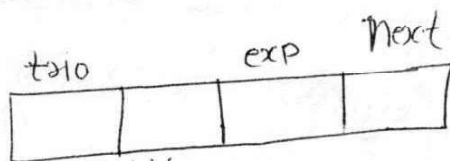
These nodes ~~would~~ have to vary in size depending on the no. of variables, causing difficulties in storage management.

The idea of using a general list structure with nodes of fixed size arises naturally if we consider rewriting  $P(x,y,z)$  as

$$(x^{10} + 2x^8)y^3 + 3x^8y^2)z^2 + ((x^4 + 6x^3)y^4 + 2y)z$$

Every polynomial can be written in this fashion.

→ structure of node is



vble  
or  
dlink  
or  
coef

MKS

Director

Moradabad Institute of Technology  
Ram Ganga Vihar, Phase-2  
Moradabad

## logical structure of node

```
enum triple {var, ptr, no};  
struct Pnode  
{  
    int exp;  
    triple trio;  
    union p  
    {  
        char vble;  
        pnode *dlink;  
        int coef;  
    };  
};
```

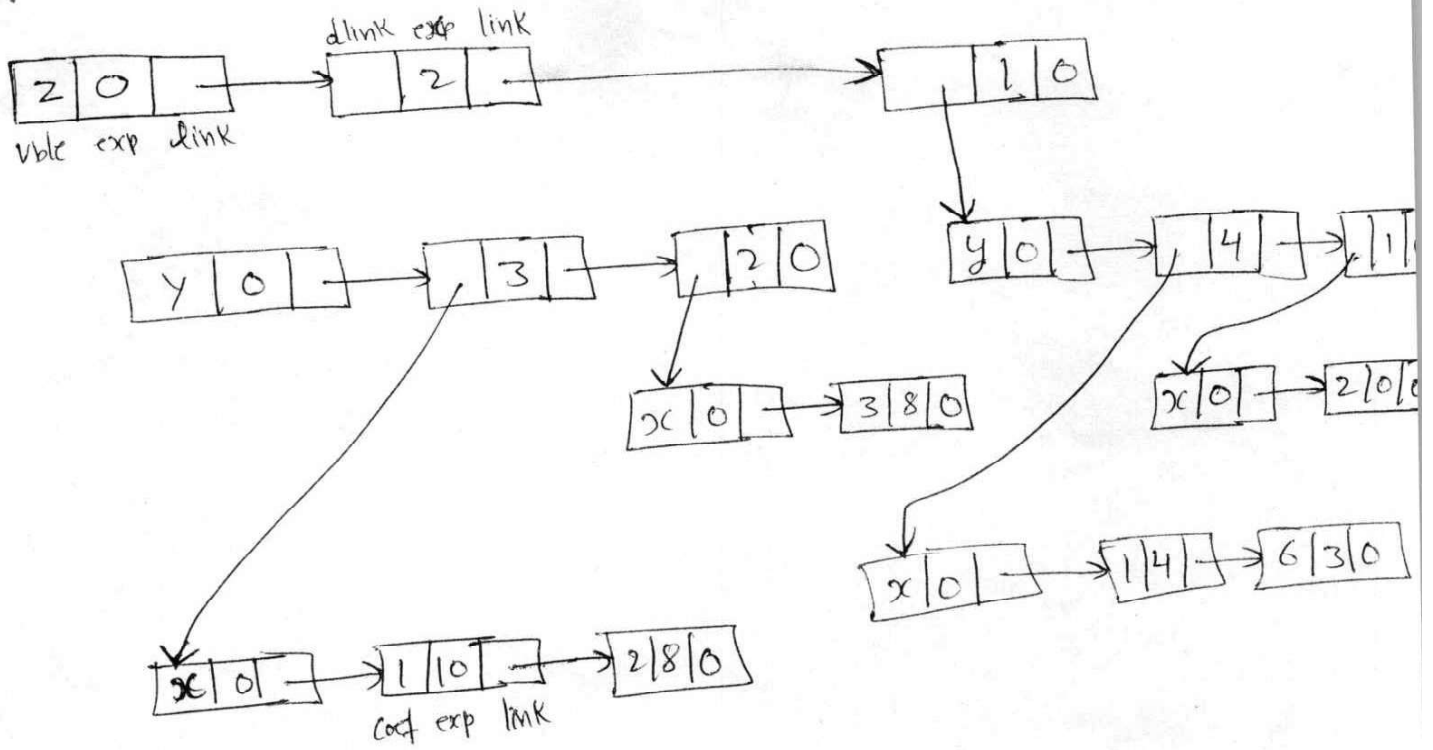
In this representation, there are 3 types of nodes, depending on the value of trio.

→ If trio == var, then the node is the head node for a list; in this case, the field vble is used to indicate the name of the variable on which that list is based and exp field is set to 0.

→ If trio == ptr, then the coefficient is itself a list and is pointed by the field dlink.

→ If trio == no, then the coefficient is an integer and is stored in the field coef.

*MM* In both above cases, exp represents the exponent of the variable on which that list is based.



Mky

Director  
 Moradabad Institute of Technology,  
 Ram Ganga Vihar, Phase-2  
 Moradabad



# Garbage collection and Compaction

## Garbage collection


- Garbage collection is a method of detecting & reclaiming free nodes.
- A Garbage collector is a system routine used for garbage collection.
- When a request is made for additional nodes and there are none available, then system call garbage collector routine.

Garbage collection is done in two phases →

① → Marking phase → It involves marking all nodes that are accessible from an external pointer.

② → Collection phase → It involves proceeding sequentially through memory and freeing all nodes that are not been marked.

MHP


  
Director  
Moradabad Institute of Technology  
Ram Ganga Vihar, Phase-2  
Moradabad

## Compaction

The process of moving all used (marked) nodes to one end of memory and all the available memory to the other end is called compaction, and an algorithm that performs such a process is called a compaction algorithm.

Compaction is required because, memory is often required in blocks (groups of contiguous nodes) rather than as single discrete nodes one at a time.

MBJ

  
Moradabad Institute of Technology,  
Sam Ganga Vihar, Phase-2  
Moradabad