

# Output:10

```
Anant Gupta   G   20011921
3
8
23 65 21 76 46 89 45 32
21 23 32 45 46 65 76 89
comparisons=16
inversions=6
10
54 65 34 76 78 97 46 32 51 21
21 32 34 46 51 54 65 76 78 97
comparisons=22
inversions=18
15
63 42 223 645 652 31 324 22 553 12 54 65 86 46 325
12 22 31 42 46 54 63 65 86 223 324 325 553 645 652
comparisons=43
inversions=32

...Program finished with exit code 0
Press ENTER to exit console.
```

# Output:11

```
Anant Gupta   G   20011921
3
8
23 65 21 76 46 89 45 32
21 23 32 45 46 65 76 89
comparisons=32
swaps=12
10
54 65 34 76 78 97 46 32 51 21
21 32 34 46 51 54 65 76 78 97
comparisons=51
swaps=17
```

## Output:12

```
Anant Gupta   G   20011921
3
10
123 656 54 765 344 514 765 34 765 234
3
123 765
15
43 64 13 78 864 346 786 456 21 19 8 434 76 270 601
8
78 78
```



# Output:13

```
Anant Gupta   G   20011921
3
10
aedwadqafp
a-3
15
rkpgvyumqadjcze
No Duplicates Present
20
gtlltcwawglcwdsaavcl
l-4

...Program finished with exit code 0
Press ENTER to exit console.
```

## Output:14

```
Anant Gupta   G   20011921
2
10
64 28 97 40 12 72 84 24 38 10
50
10 40
15
56 10 72 91 29 3 41 45 61 20 11 39 9 12 94
302
No such Element Exist

...Program finished with exit code 0
Press ENTER to exit console.
```

## Output:15

```
Anant Gupta   G   20011921
7
10 10 34 39 55 76 85
12
10 10 11 30 30 34 34 51 55 69 72 89
10 10 34 55

...Program finished with exit code 0
Press ENTER to exit console.
```

## Output:16

```
Anant Gupta      G      20011921
5
8
0 1
0 2
1 2
1 3
1 4
2 3
3 1
3 4
0 4
Yes Path Exists

...Program finished with exit code 0
Press ENTER to exit console. 
```

## Output:17

```
Anant Gupta   G   20011921
```

```
5
```

```
7
```

```
0 1
```

```
0 2
```

```
1 3
```

```
1 2
```

```
2 3
```

```
3 4
```

```
1 4
```

```
Not Bipartite
```

```
...Program finished with exit code 0
```

```
Press ENTER to exit console.
```



## Output:18

```
Anant Gupta   G   20011921
```

```
5
```

```
7
```

```
0 1
```

```
0 3
```

```
4 0
```

```
3 4
```

```
4 1
```

```
1 2
```

```
4 2
```

```
Yes Cycle Exists
```

```
...Program finished with exit code 0
```

```
Press ENTER to exit console.█
```

## Output:19

```
Anant Gupta    G    20011921
```

```
5
```

```
0 4 1 0 0
```

```
0 0 0 0 4
```

```
0 2 0 4 0
```

```
0 0 0 0 4
```

```
0 0 0 0 0
```

```
0
```

```
0 :0
```

```
0 2 1 :3
```

```
0 2 :1
```

```
0 2 3 :5
```

```
0 2 1 4 :7
```

```
...Program finished with exit code 0
```

```
Press ENTER to exit console.
```

# Output:20

```
Anant Gupta    G    20011921
5
0 4 1 0 0
0 0 0 0 4
0 2 0 4 0
0 0 0 0 4
0 0 0 0 0
0
0 :0
0 2 1 :3
0 2 :1
0 2 3 :5
0 2 1 4 :7

...Program finished with exit code 0
Press ENTER to exit console.
```

## Output:21

```
Anant Gupta   G   20011921
4
0 10 3 2
0 0 0 7
0 0 0 6
0 0 0 0
0 3 2
Weight of shortest Path(0,3) with 2 edges=9

...Program finished with exit code 0
Press ENTER to exit console.
```

## Output:22

```
Anant Gupta      G      20011921
```

```
5
```

```
0 2 0 6 0
```

```
2 0 3 8 5
```

```
0 3 0 0 7
```

```
6 8 0 0 9
```

```
0 5 7 9 0
```

```
2 3 6 5
```

```
Minimum Spanning Weight: 16
```

```
...Program finished with exit code 0
```

```
Press ENTER to exit console.
```

## Output:23

```
Anant Gupta   G   20011921
4
5
0 1 10
1 3 15
2 3 4
2 0 6
0 3 5
Minimum Spanning Tree is
2 - 3
0 - 3
0 - 1
Minimum Weight is : 19

...Program finished with exit code 0
Press ENTER to exit console.
```

## Output:24

```
Anant Gupta      G      20011921
```

```
7
```

```
0 0 7 5 0 0 0
```

```
0 0 8 5 0 0 0
```

```
7 8 0 9 7 0 0
```

```
5 0 9 0 15 6 0
```

```
0 5 7 15 0 8 9
```

```
0 0 0 6 8 0 11
```

```
0 0 0 0 9 11 0
```

```
8 7 9 15 11 9
```

```
Maximum Spanning Weight: 59
```

```
...Program finished with exit code 0
```

```
Press ENTER to exit console.
```

## Output:25

```
Anant Gupta      G      20011921
Shortest Distance Matrix:
0      10      5      5      15
INF     0      5      5      5
INF     INF     0      15     10
INF     INF     INF     0     20
INF     INF     INF     5     0

...Program finished with exit code 0
Press ENTER to exit console.
```



## Output:26

```
Anant Gupta      G      20011921
6
6 10 3 5 1 3
6 2 1 8 3 5
16
Maximum value : 22.3333
item-weight
1-0
2-1
3-6
4-5
5-3
6-1

...Program finished with exit code 0
Press ENTER to exit console.
```

## Output:27

```
Anant gupta    G    20011921
10
10 5 100 50 20 15 5 20 100 10
895

...Program finished with exit code 0
Press ENTER to exit console.
```

## Output:28

```
Anant Gupta      G      20011921
10
1 3 0 5 3 5 8 8 2 12
4 5 6 7 9 9 11 12 14 16
No. of non-conflicting activities: 4
List of selected activities: 1 4 7 10

...Program finished with exit code 0
Press ENTER to exit console.█
```

## Output:29

```
Anant Gupta      G      20011921
7
2 1 3 2 2 2 1
2 3 8 6 2 5 3
Max number of tasks =4
Selected task numbers :1 2 3 6

...Program finished with exit code 0
Press ENTER to exit console.█
```

## Output:30

```
Anant Gupta      G      20011921
9
4 4 2 3 2 2 3 2 2
Yes
2

...Program finished with exit code 0
Press ENTER to exit console.█
```