

```
1  #include<stdio.h>
2  int main()
3  {
4      int n,i,j,ctr=1;
5      printf("Enter the value for n\n");
6      scanf("%d",&n);
7      for(i=1;i<=n;i++)
8      {
9          for(j=1;j<=i;j++)
10         {
11             printf("%d\t",ctr);
12             ctr++;
13         }
14         printf("\n");
15     }
16     return 0;
17 }
18
```

C:\WINDOWS\SYSTEM32\cmd.exe

Enter the value for n

5

1

2            3

4            5            6

7            8            9            10

11            12            13            14            15

-----

(program exited with code: 0)

Press any key to continue . . .

```

1  #include<stdio.h>
2  int main()
3  {
4      int cie,see,total;
5      printf("Enter CIE marks out of 50 and SEE marks out of 100\n");
6      scanf("%d%d",&cie,&see);
7      total=cie+(see/2);
8      if(total>=90)
9          printf("S grade\n");
10     else if(total>=80)
11         printf("A grade\n");
12     else if(total>=70)
13         printf("B grade\n");
14     else if(total>=60)
15         printf("C grade\n");
16     else if(total>=50)
17         printf("D grade\n");
18     else if(total>=40)
19         printf("E grade\n");
20     else if(total<40)
21         printf("F grade\n");
22     return 0;
23 }
24

```

C:\WINDOWS\SYSTEM32\cmd.exe

Enter CIE marks out of 50 and SEE marks out of 100

40

40

C grade

-----

(program exited with code: 0)

Press any key to continue . . .

```

1  #include<stdio.h>
2  int main()
3  {
4      int a,b,i,j,nof;
5      printf("Enter 2 integers(enter the least number first)\n");
6      scanf("%d%d",&a,&b);
7      for(i=a;i<=b;i++)
8      {
9          nof=0;
10         for(j=1;j<=i;j++)
11         {
12             if(i%j==0)
13                 nof++;
14         }
15         if(nof==2)
16             printf("%d\n",i);
17     }
18     return 0;
19 }
20
21

```

C:\WINDOWS\SYSTEM32\cmd.exe

Enter 2 integers(enter the least number first)

3

13

3

5

7

11

13

-----

(program exited with code: 0)

Press any key to continue . . .

```

1  #include<stdio.h>
2  #include<math.h>
3  int main()
4  {
5      int b,p=1;
6      float r,h,a,v;
7      while (p==1)
8      {
9          printf("Enter the number\n");
10         printf("1-Cylinder\n2-Cone\n3-Sphere\n0-Stop\n");
11         scanf("%d",&b);
12         if(b==0)
13             break;
14         switch(b)
15         {
16             case 1:
17             {
18                 printf("Enter radius and height\n");
19                 scanf("%f%f",&r,&h);
20                 a=(2*3.14*r*h)+(2*3.14*r*r);
21                 v=3.14*r*r*h;
22                 printf("Area=%f, Volume=%f\n",a,v);
23             }
24             break;
25             case 2:
26             {
27                 printf("Enter radius and height\n");
28                 scanf("%f%f",&r,&h);
29                 a=(3.14*r)*(r+sqrt(h*h)+(r*r));
30                 v=(3.14*r*r*h)/3;
31                 printf("Area=%f, Volume=%f\n",a,v);
32             }
33             break;
34             case 3:
35             {
36                 printf("Enter radius and height\n");

```



```

17 {
18     printf("Enter radius and height\n");
19     scanf("%f%f",&r,&h);
20     a=(2*3.14*r*h)+(2*3.14*r*r);
21     v=3.14*r*r*h;
22     printf("Area=%f, Volume=%f\n",a,v);
23 }
24 break;
25 case 2:
26 {
27     printf("Enter radius and height\n");
28     scanf("%f%f",&r,&h);
29     a=(3.14*r)*(r+sqrt(h*h)+(r*r));
30     v=(3.14*r*r*h)/3;
31     printf("Area=%f, Volume=%f\n",a,v);
32 }
33 break;
34 case 3:
35 {
36     printf("Enter radius and height\n");
37     scanf("%f%f",&r,&h);
38     a=4*3.14*r*r;
39     v=(3.14*4*r*r*r)/3;
40     printf("Area=%f, Volume=%f\n",a,v);
41 }
42 break;
43 default:
44 {
45     printf("Enter a valid number\n");
46 }
47 }
48 }
49 return 0;
50 }
51

```



Enter the number

1-Cylinder

2-Cone

3-Sphere

0-Stop

1

Enter radius and height

2

4.4

Area=80.384003, Volume=55.264000

Enter the number

1-Cylinder

2-Cone

3-Sphere

0-Stop

3

Enter radius and height

7.9

2.9

Area=783.869629, Volume=2064.189941

Enter the number

1-Cylinder

2-Cone

3-Sphere

0-Stop

0

```

1  #include <stdio.h>
2  int main()
3  {
4      int n,i, e1=0, e2=0, e3=0, x, p,min,l=0;
5      struct student
6      {
7          int elec;
8          char name[20];
9      }ar[100];
10     printf("Enter the number of the students\n");
11     scanf("%d",&n);
12     printf("Choice of elective:\n1-IoT,2-Advanced Java and J2EE,3-Advanced data structures\n");
13     for(i=0;i<n;i++)
14     {
15         printf("Enter %d student's name and the choice of elective\n",i+1);
16         scanf("%s%d",ar[i].name,&ar[i].elec);
17         if(ar[i].elec==1)
18             e1++;
19         if(ar[i].elec==2)
20             e2++;
21         if(ar[i].elec==3)
22             e3++;
23     }
24     if(e1<=e2&&e1<=e3)
25         min=e1;
26     if(e2<=e1&&e2<=e3)
27         min=e2;
28     if(e3<=e2&&e3<=e1)
29         min=e3;
30     printf("Enter the course number\n");
31     scanf("%d",&x);
32     printf("Names of the students who have opted for %d:\n",x);
33     for(i=0;i<n;i++)
34     {
35         if(ar[i].elec==x)
36             printf("%s\n",ar[i].name);

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```

35     if(ar[i].elec==x)
36         printf("%s\n",ar[i].name);
37     }
38     printf("Total number of students in 1st course is %d\n",e1);
39     printf("Total number of students in 2nd course is %d\n",e2);
40     printf("Total number of students in 3rd course is %d\n",e3);
41     if(e1<3&&e2>=3&&e3>=3)
42     {
43         printf("Course 1 will not be floated. Plaese select from the other 2 courses\n");
44         p=1;
45         l=1;
46     }
47     if(e2<3&&e1>=3&&e3>=3)
48     {
49         printf("Course 2 will not be floated. Plaese select from the other 2 courses\n");
50         p=2;
51         l=1;
52     }
53     if(e3<3&&e1>=3&&e2>=3)
54     {
55         printf("Course 3 will not be floated. Plaese select from the other 2 courses\n");
56         p=3;
57         l=1;
58     }
59     if(l==0)
60     {
61         if(min==e1)
62         {
63             printf("Please select from course 2 and 3\n");
64             p=1;
65         }
66         else if(min==e2)
67         {
68             printf("Please select from course 1 and 3\n");
69             p=2;
70         }

```

```

68         printf("Please select from course 1 and 3\n");
69         p=2;
70     }
71     else if(min==e3)
72     {
73         printf("Please select from course 1 and 2\n");
74         p=3;
75     }
76 }
77 if(p==1)
78 {
79     for(i=0;i<n;i++)
80     {
81         if(ar[i].elec==1)
82         {
83             printf("Enter a different course. Name:%s\n",ar[i].name);
84             scanf("%d",&ar[i].elec);
85         }
86     }
87     else if(p==2)
88     {
89         for(i=0;i<n;i++)
90         {
91             if(ar[i].elec==2)
92             {
93                 printf("Enter a different course. Name:%s\n",ar[i].name);
94                 scanf("%d",&ar[i].elec);
95             }
96         }
97     }
98     else if(p==3)
99     {
100         for(i=0;i<n;i++)
101         {
102             if(ar[i].elec==3)
103             {
104                 printf("Enter a different course. Name:%s\n",ar[i].name);
105                 scanf("%d",&ar[i].elec);
106             }
107         }
108     }

```

```

91     {
92         printf("Enter a different course. Name:%s\n",ar[i].name);
93         scanf("%d",&ar[i].elec);
94     }
95 else if(p==3)
96 {
97     for(i=0;i<n;i++)
98     {
99         if(ar[i].elec==3)
100         {
101             printf("Enter a different course. Name:%s\n",ar[i].name);
102             scanf("%d",&ar[i].elec);
103         }
104     }
105     printf("Students in 1 elective\n");
106     for(i=0;i<n;i++)
107     {
108         if(ar[i].elec==1)
109             printf("%s\n",ar[i].name);
110     }
111     printf("Students in 2 elective\n");
112     for(i=0;i<n;i++)
113     {
114         if(ar[i].elec==2)
115             printf("%s\n",ar[i].name);
116     }
117     printf("Students in 3 elective\n");
118     for(i=0;i<n;i++)
119     {
120         if(ar[i].elec==3)
121             printf("%s\n",ar[i].name);
122     }
123     return 0;
124 }

```



Enter the number of the students

5

Choice of elective:

1-IoT,2-Advanced Java and J2EE,3-Advanced data structures

Enter 1 student's name and the choice of elective

aaa

1

Enter 2 student's name and the choice of elective

sss

2

Enter 3 student's name and the choice of elective

qqq

1

Enter 4 student's name and the choice of elective

eee

3

Enter 5 student's name and the choice of elective

rrr

1

Enter the course number

1

Names of the students who have opted for 1:

aaa

qqq

rrr

Total number of students in 1st course is 3

Total number of students in 2nd course is 1

Total number of students in 3rd course is 1

Please select from course 1 and 3

Enter a different course. Name:sss

3

Students in 1 elective

aaa

qqq

rrr

Students in 2 elective

Students in 3 elective

sss

eee

-----

(program exited with code: 0)

Press any key to continue . . .