OOJ Lab

1
```
#include<stdio.h>
int main()
{
int n;
printf("Enter a number:");
scanf("%d",&n);
int i,j;
int k=1;
for(i=1;i<=n;i++)
{
 for(j=0;j<i;j++)
 {
  printf("%d",k);
  k++;
 }
 printf("\n");
}
 return 0;
}
```

1
2 3
4 5 6
7 8 9 10

2.
```
#include<stdio.h>
int main()
{
 float cie_marks, see_marks;
 printf("Enter cie and see marks");
 scanf("%f %f",&cie_marks,&see_marks);
 float total=cie_marks+(see_marks/2);
 printf("The Grade of student:");
  if(total>=90)
   printf("S\n");
 else if(total>=80 && total<90)
```

```
printf("A\n");
else if (total>=70 && total<80)
printf ("B\n");
else if (total>=60 && total<70)
printf("C\n");
else if (total>=50 && total<60)
printf ("D\n");
else if (total>=40 && total<50)
printf("E\n");
else
printf ("F\n");
return 0;
}
```

(3)

```
#include <stdio.h>
int main()
{
int a,b;
printf("Enter 2 integers:");
scanf("%d %d",&a,&b);

int i,j,k;
printf("The prime numbers between %d and %d:\n",a,b);
for(i=a;i<=b;i++)
{
for(j=2;j<=i/2;j++)
{
if(i%j==0)
{
k=0
break;
}
else
k=1;
```

```
}
if (k==1)
printf("%d \n", i);
}
return 0;
}
```

④
```
#include <stdio.h>
#include<math.h>
int main( )
{
  int m, i;
printf("1: Find the volume and area of cylinder \n");
printf("2: Find the volume and area of cone. \n");
printf("3: Find the volume and area of sphere \n");
printf("4: to quit \n");
while(i)
{printf("enter your choice \n");
scanf("%d", &m);

if(m==1)
{
 int a, b;
 float c, d;
printf("enter the values of height and radius of cylinder \n");
scanf("%d %d" &a, &b);
c=(2*3.14*b*a)+(2*3.14*b*b);
d= 3.14*b*b*a;
printf("the volume and area of cylinder are %f, %f \n", d, c);
}
else if(m==2)
{
 int e, f;
```

```
float g,h;
printf("enter the values of height and radius of cone\n");
scanf("%d%d",&e,&f);
g=3.14*f*(f+sqrt(e*e+f*f));
h=(3.14*f*f*e)/3;
printf("the volume and area of cone are %f %f\n",h,g);
}
else if(m==3)
{
int j;
float l,o;
printf("enter the value of radius\n");
scanf("%d",&j);
l=4*3.14*j*j;
o=(4*3.14*j*j*j)/3;
printf("the volume and area of sphere are :%f %f\n",o,l);
}
else if(m==4)
break;
else
printf("entered invalid choice\n");
}
return 0;
}
```

(5)

```
#include<stdio.h>
#include<string.h>
int main()
{
const int n;
printf("Enter the number of students.");
scanf("%d",&n);
printf("Choose the option:\n");
```

```
printf("1 - Internet of things \n");
printf("2 - Advanced Java \n");
printf("3 - Advanced Data Structures \n");
char names[n][20];
int choice[n];
char iot[n][20];
char aj[n][20];
char ads[n][20];
int iotc=0, ajc=0, adsc=0;
int i;
printf("Enter the names of choice of students: \n");
for(i=0;i<n;i++)
{
printf("%d:", i+1);
Scanf("%s %d", names[i], &choice[i]);
}
for(i=0; i<n; i++)
{
 if(choice[i]==1)
{
 strcpy(iot[iotc], names[i]);
 iotc;
}
else if(choice[i]==2)
{
strcpy(aj[ajc], names[i]);
ajc++;
}
else if(choice[i]==3)
{
strcpy(ads[adsc], names[i]);
adsc++;
}
```

```
}
printf("The students in iot:\n");
for(i=0;i<iotc;i++)
printf("%s\n",iot[i]);
printf("The students in aj:\n");
for(i=0;i<ajc;i++)
printf("The students in ads:\n");
for(i=0;i<adsc;i++)
printf("%s\n",ads[i]);

if(iotc<5)
{
printf("The number of students are less in iot, please
choose other courses.\n");
int choice-iot[iotc];
for(i=0;i<iotc;i++)
{
printf("%s",iot[i]);
scanf("%d",&choice-iot[i]);
}
  for(i=0;i<iotc;i++)
{
  if(choice-iot[i]==2)
{
    strcpy(aj[ajc],iot[i]);
  ajc++;
}
  else if(choice-iot[i]==3)
  {
  strcpy(ads[adsc],iot[i]);
  adsc++;
  }
}
```

```
printf("The students in aj:\n");
for(i=0; i<ajc; i++)
printf("%s\n", aj[i]);
printf("The students in ads:\n");
for(i=0; i<adsc; i++)
printf("%s\n", ads[i]);
}
else if(ajc<5)
{
printf("The number of students are less in aj, please choose
other courses\n");
int choice = aj[ajc];
for(i=0; i<ajc; i++)
{
printf("%s:", aj[i]);
scanf("%d", &choice-aj[i]);
}
for(i=0; i<ajc; i++)
{
if(choice-aj[i]==2)
{
strcpy(iot[iotc], aj[i]);
iotc++;
}
else if(choice-aj[i]==3)
{
strcpy(ads[adsc], aj[i]);
adsc++;
}
}
printf("The students in iot:\n");
for(i=0; i<iotc; i++)
printf("%s\n", iot[i]);
```

```
printf("The students in ads:\n");
for(i=0;i<adsc;i++)
printf("%s\n",ads[i]);
}
else if(adsc<5)
{
printf("The number of students are less in ads, please
choose other courses.\n");
int choice_ads[adsc];
for(i=0;i<adsc;i++)
{
printf("%s:",ads[i]);
scanf("%d",&choice_ads[i]);
}
for(i=0;i<adsc;i++)
{
if(choice_ads[i]==2)
{
strcpy(iotc[iotc],ads[i]);
iotc++;
}
else if(choice_ads[i]==3)
{
strcpy(aj[ajc],ads[i]);
ajc++;
}
}
printf("The students in iot:\n");
for(i=0;i<iotc;i++)
printf("%s\n",iot[i]);
printf("The ~~not~~ students in aj:\n");
for(i=0;i<ajc;i++)
printf("%s\n",aj[i]);
return 0;
}
```