3)

```
#include <stdio.h>
int main()
{
int i, j, n, num=1;
printf("enter the value of n:");
scanf("%d",&n);
for(i=1; i<=n; i++)
 {
 for(j=1; j<=i; j++)
{
printf("%d", num);
 num++;
}
 printf("\n");
}
return 0;
}
```

4)
```
#include <stdio.h>
int main ()
{
int marks1, mark2
printf ("enter the CIE marks");
scanf ("%d, &marks1);
printf ("enter the SEE marks:");
scanf("%d", &marks2);
if (marks1<20)
printf ("grade is f");
else if (marks2>=90)
printf ("grade is A");
 else if (marks2>=80)
printf ("grade is B");
 else if (marks2>=70)
printf ("grade is C");
 else if (marks2>=60)
 printf("grade is D");
else if (marks2>=40)
printf ("grade is E");
 else
printf ("grade is F");
}
```

5)
```
#include <stdio.h>
int checkPrimeNumber(int n);
int main()
{
 int n1, n2, i, flag;
 printf("Enter two positive integers:");
 scanf("%d %d", &n1, &n2);
 printf("Prime numbers between %d and %d are:", n1, n2);
 for(i = n1 + 1; i < n2; ++i)
 {
 flag = checkPrimeNumber(i);
 if(flag == 1)
 printf("%d", i);
 }
 return 0;
}
int checkPrimeNumber(int n)
{
int j, flag = 1;
 for(j = 2; j <= n/2; ++j)
{
 if(n % j == 0)
{
 flag = 0;
 break;
 }
 }
return flag;
}
```

6)
```
#include<stdio.h>
#include<math.h>
int main()
{
float area, volume, r, h;
int i, n, t;
float pi = 3.14;
printf("enter how many times you want to run program
                \n");
scanf("%d", &n);
for (t=0; t<n; t++)
{
printf("Enter 1: Cylinder, 2: Cone, 3: sphere \n");
scanf("%d", &i);
switch(i)
{
case 1:
printf("enter radius and height \n");
scanf("%f, %f, &r, &h);
area = (2*pi*r*h)+(2*pi*r*r);
volume = (pi**r*r*h);
printf("the area and volume of cylinder is %f and %f \n",
        area, volume);
break;
case 2:
printf("enter radius and height \n");
scanf("%f, %f, &r, &h);
area = pi*r*(r+sqrt((h*h)+(r*r)));
```

```
volume=pi*r*r(h/3);
printf(" the area and volume of cone is %.f and %.f \n",
        area, volume);
break;
case 3:
printf ("enter radius \n")
scanf ("%.f", &r);
area= 4* pi*r*r;
volume = (4/3)*pi*r*r*r;
printf(" the area and volume of sphere is %.f and %.f \n"
        area, volume);
break;
}
}
return 0;
}
```