PROGRAM 3 IN 'C'

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

PROGRAM -4 IN 'C'

```
#include <stdio.h>
#include <math.h>
int main()
{
    int c, s; float g, h;
    printf("Enter CIE marks \n");
    scanf("%d", &c);
    printf("Enter SEE marks \n");
    scanf("%d", &s);
    if(c<=50 && s<=100)
    {
        h=(s/2);
        g=(c+h);
    }
    if(g<=100 && g>=90)
    printf("Grade S \n");
  else if(g>=80 && g<90);
    printf("Grade A \n");
  else if(g>=70 && g<80)
    printf("Grade B \n");
   else if(g>=60 && g<70)
    printf("Grade C \n");
```

```
else if (g>=50 && g<60)
printf ("Grade D\n");
else if (g>=40 && g<50)
printf ("Grade E\n");
else if (g<40)
printf ("Grade F\n");
return 0;
}
```

PROGRAM 5 IN 'C'

```
#include <stdio.h>
void findPrimes (int a, int b)
{
    int j=2, flag;
    if (a==1 || a==0)
    {
        a=2;
        printf("2 ");
    }
else
{ for (int i=a+1; i<b; i=i+2)
    {
```

```
flag = 1;
for (int j = 2; j <= i/2 ; ++j)
{
    if (i % j == 0)
    {
        flag = 0;
        break;
    }
}
if (flag == 1)
printf("%d", i);
}
}
int main()
{
int n1, n2;
printf("Enter first number: ");
scanf("%d", &n1);
printf("Enter second number: ");
scanf("%d", &n2);
findPrimes(n1, n2);
}
```

PROGRAM 6 IN C

```
#include <stdio.h>
#include <math.h>
int main()
{
    int x, k float a, h, A, V;
    int x, y=0;
    printf("Enter the radius and height \n");
    scanf("%f %f", &a, &h);
    while (y!=4)
    {
    printf("Area and volume \n Press 1 for Cylinder \n
        Press 2 for Cone \n Press 3 for Sphere \n Press 4 to
                                                stop");
    scanf("%d", &x);
    if (x==1)
    {
     A = (2* 3.14*a*h) + (2*3.14*a*a);
     printf("Area of Cylinder = %f\n", A);
     V = 3.14 * a*a*h;
     printf("Volume of Cylinder = %f \n", V);
    }
    else if (x==2)
    {
```

```
A = 3.14*r*(r+pow((h*h+r*r),0.5));
printf("Area of Cone = %f\n", A);
V = (3.14*r*r*h)/3;
printf("Volume of cone = %f\n", V);
}
else if(x==3)
{
    A = 4*3.14*r*r;
    printf("Area of Sphere = %f\n", A);
    V = (4/3)*3.14*r*r*r;
    printf("Volume of Sphere = %f\n", V);
}
else if(x==4)
    y=4;
}
return 0;
}
```

PROGRAM 7 IN 'C'

```
#include <stdio.h>
#include <string.h>
struct addname
{
    char name [10];
};
int main()
{
  struct add name arr [50];
  int k,n, x1=0, x2=0, x3=0, a[50];
  printf("Students must fill name and choice of elective\n");
  printf("Choice of elective : 1. IoT \n 2. Java \n 3. DS\n");
  printf("Enter number of students : ");
  scanf("%d", &k);
  for(int i=0; i<k; i++)
  {
    printf("Enter name of student: ");
    scanf("%s", &arr[i].name);
    printf("Enter your choice : ");
    scanf("%d", &n);
    a[i] = n;
    if(a[i] ==1)
    x1++;
```

```
if (a[i] == 2)
  x2++;
if a[i] == 3)
  x3++;
}
printf("Operation 1\n");
printf("Enter choice for elective list:");
scanf("%d", &x);
for (i=0; i<k; i++)
{
    if (a[i] == x)
    printf("%s\n", arr[i].name);
}
printf("Operation 2\n");
if (x1 < 3)
{
    x1 = 0;
    printf("All elective one students choose
            different elective \n");
    for (int i = 0; i< k; i++)
    {
        if a[i] == 1)
```

```
{
printf("%os select elective 2 or 3 : ", arr[i].name);
scanf("%od", &n);
a[i] = n;
if (n == 3)
x3++;
if (n == 2)
x2++;
}}
if (x2 < 3)
{
x2 = 0;
printf("Choose from 1 or 3");
for (int i=0; i < k; i++)
{ if (a[i] == 2)
{ printf("%os select 1 or 3 :", arr[i].name);
scanf("%od", &n);
a[i] = n;
if (n == 3)
x3++;
if (n == 1)
x1++;
}
```

```
printf("Operation 3 \n");
printf("No. of students in IOT : %d ", x1);
printf("No. of student in JAVA : %d ", x2);
printf("No. of students in DS : %d ", x3);
printf("List of students in IOT : ");
for (int i=0; i< k; i++)
{
    printf("List if (a[i] == 1)
        printf("%s\n", arr[i].name);
}
printf("List of students in JAVA : ");
for (int i=0; i < k; i++)
{   if(a[i] == 2)
    printf("%s\n", arr[i].name);
}
printf("List of Students in DS : ");
for (int i=0; i < k; i++)
{
    if(a[i] == 3)
    printf("%s\n", arr[i].name);
}
}
return 0;
}
```