22/09

3. Write a C program to accept a number n from the user and print n rows of output as given below if n=4

```
1
2   3
4   5   6
7   8   9   10.
```

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

4. Write a C program to accept the CIE marks (out of 50) and SEE marks (out of 100) of a student and print his/her grade. [use if-elseif]

```
#include<stdio.h>
int main()
{
int CIE, SEE;
float total;
printf("Enter the CIE marks out of 50: \n");
scanf("%d", &CIE);
printf("Enter the SEE marks out of 100: \n");
scanf("%d", &SEE);
total = CIE + (SEE/2.0);
if (CIE>=20 && SEE >=40)
  {
    if (total>90 && total=100)
     printf("Grade obtained is S");
    else if (total>80 && total<=90)
     printf("Grade obtained is A");
    else if (total>70 && total<=80)
     printf("Grade obtained is B");
     else if (total>60 && total<=70)
     printf("Grade obtained is C");
     else if (total>50 && total<=60)
      printf("Grade obtained is D");
       else
        printf("Grade Obtained is E");
  }
```

```
else if (CIE >= 20 && SEE < 40)
 printf ("Grade obtained is F");
  else
    printf ("Not eligible \n");
}
```

5. Write a C program to print the prime numbers between given two integers. Accept these two integers from the user.

```
#include <stdio.h>
  int main()
  {
   int low, high, n;
    int count;
    int div;
    printf ("Enter the start number of the range: \n");
    scanf ("%d", &low);
    printf ("Enter the end number of the range: \n");
    scanf ("%d", &high);
    printf ("The prime numbers between the
              given range are: \n");
  for (n = low; n <= high ; n++)
      {
          int count = 0;
          for (div = 2; div * div <= n; div++)
              {
                  if (n%div == 0)
                  {
```

```
        count++;
          break;
          }
    }
    if (count == 0)
        {
        printf ("%d\t", n);
        }
  }
}
```

6. Write a C program which prints the area and volume of any one of the given shapes given below. Accept the choice of the shape, appropriate inputs from the user, Calculate and display the area and the volume of the same. Repeat this with different shapes till the user wishes to stop.

Cylinder :	Area = $2\pi rh + 2\pi r^2$	Volume $V = \pi r^2 h$
Cone :	Area = $\pi r(r + \sqrt{(h^2 + r^2)})$	Volume $V = \pi r^2 h / 3$
Sphere :	Area = $4\pi r^2$	Volume $V = (4/3)\pi r^3$

```
#include <stdio.h>
#include<math.h>
 int main()
  {
   int choice;
   const float pi = 3.14;
   float area, volume;
```

```
int r1, r2, r3;
int h1, h2;
char ch;
do
{
printf("Select your choice from the options
        given below:\n");
printf("1.cylinder\n2.cone\n3.sphere\n");
Scanf("%d", &choice);
printf("Enter the radius:\n");
Scanf("%d", &r1);
printf("Enter the height:\n");
Scanf("%d", &h1);
Switch(choice)
{
case 1:
  printf("For cylinder:\n");
  area = ((2*pi*r1*h1)+(2*pi*r1*r1));
  Volume = (pi*r1*r1*h1);
 printf("Area of cylinder = %f\n", area);
 printf("Volume of cylinder = %f\n", volume);
  break;

Case 2:
printf("For cone:\n");
area = ((pi*r1)*(r1+(sqrt((h1*h2)+(r1*r2)))
Volume = (pi*r1*r1*h1)/3;
printf("Area of cone = %f\n", area);
printf("Volume of Cone = %f\n", volume);
```

```
break;
Case 3:
printf ("For sphere :\n");
area = 4 * pi * r1 * r1;
volume = ((4/3) * pi * r1 * r1 * r1);
printf ("Area of sphere = %f\n", area);
printf ("Volume of sphere = %f\n", volume);
break;
default:
printf("Please input correct choice:\n");
break;
}
printf ("To continue press y :\n");
scanf ("%s", &ch);
}
while (ch == 'y' || ch == 'Y');
}
```