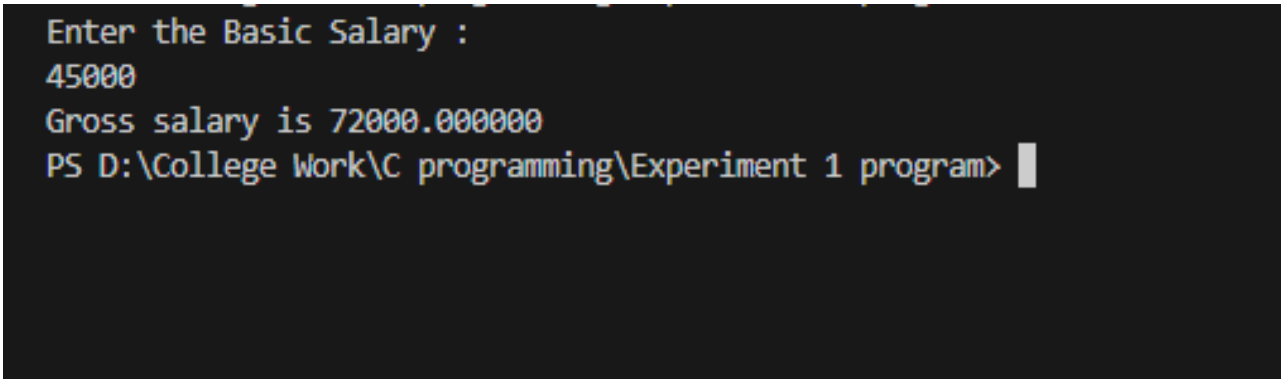
EXPERIMENT NO. 1

Ques 1 :- Ramesh's basic salary input through the keyboard. His dearness allowance is 40% of basic salary, and house rent allowance is 20% of basic salary. Write a code to calculate his gross salary.

```
#include <stdio.h>
int main()
{
   float basic_salary, da, hr, gross_salary;
   printf("Enter the Basic Salary :\n");
   scanf("%f", &basic_salary);
   if (basic_salary <= 0)
   {
      printf("Enter the correct Basic Salary");
   }
   else
   {
      da = 0.4 * basic_salary; // da is 40% of basic salary
      hr = 0.2 * basic_salary; // hr is 20% of basic salary
      gross_salary = basic_salary + da + hr;
      printf("Gross salary is %f", gross_salary);
   }
```

```
}
```

Output of the Program :-

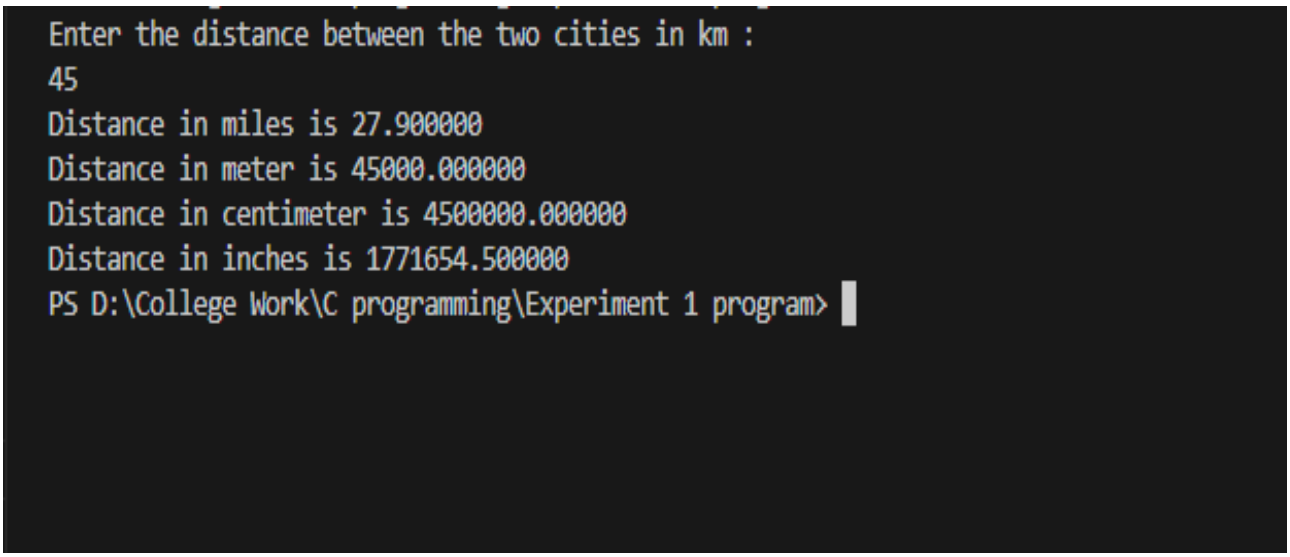


Ques 2 :- The distance between two cities (in Km) is input through the keyboard. Write a program to convert and print this distance in meters, feet, inches and centimeters.

```
#include<stdio.h>
int main()
{
   float distance, miles, meter, centimeter, inches;
   printf("Enter the distance between the two cities in km :\n");
   scanf("%f",&distance);
   if(distance<=0)
   {
      printf("Enter the valid distance in Km");
   }
```

```
    else
    {
        miles = 0.62*distance;
        meter = 1000*distance;
        centimeter = 100000*distance;
        inches = 39370.1* distance;
        printf("Distance in miles is %f\n",miles);
        printf("Distance in meters is %f\n",meter);
        printf("Distance in centimeters is %f\n",centimeter);
        printf("Distance in inches is %f\n",inches);
    }
}
```

Output of the Program :-

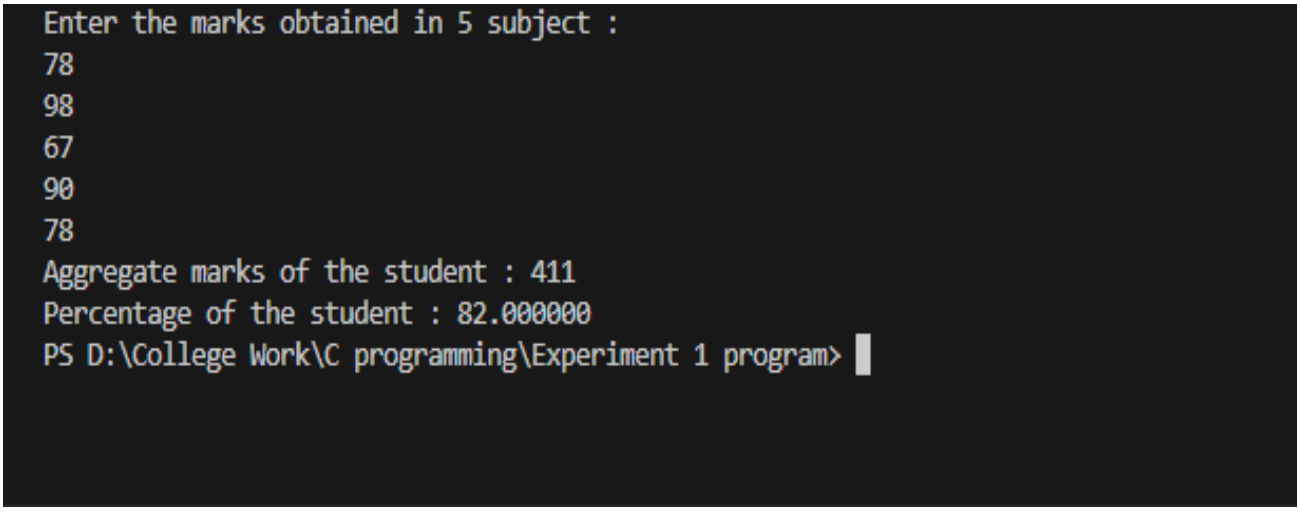


Ques 3 :- If the marks obtained by a student in five different subjects are input through the keyboard, write a program to find out the aggregate marks and percentage marks obtained by the student. Assume that the maximum marks that can be obtained by a student in each subject is 100.

```
#include <stdio.h>
int main()
{
   int m1, m2, m3, m4, m5,sum;
   float percentage;
   printf("Enter the marks obtained in 5 subject :\n");
   scanf("%d %d %d %d %d",&m1, &m2, &m3, &m4, &m5);
   if (m1 < 0 || m1 > 100 || m2 < 0 || m2 > 100 || m3 < 0 || m3 > 100
|| m4 < 0 || m4 > 100 || m5 < 0 || m5 > 100)
   {
      printf("Enter the valid marks obtained in five subject");
   }
   else
   {
      sum = m1 + m2 + m3 + m4 + m5;
      percentage = (m1 + m2 + m3 + m4 + m5) * 100 / 500;
```

```
        printf("Aggregate marks of the student : %d\n", sum);
        printf("Percentage of the student : %f\n", percentage);
    }
}
```

Output of the Program :-

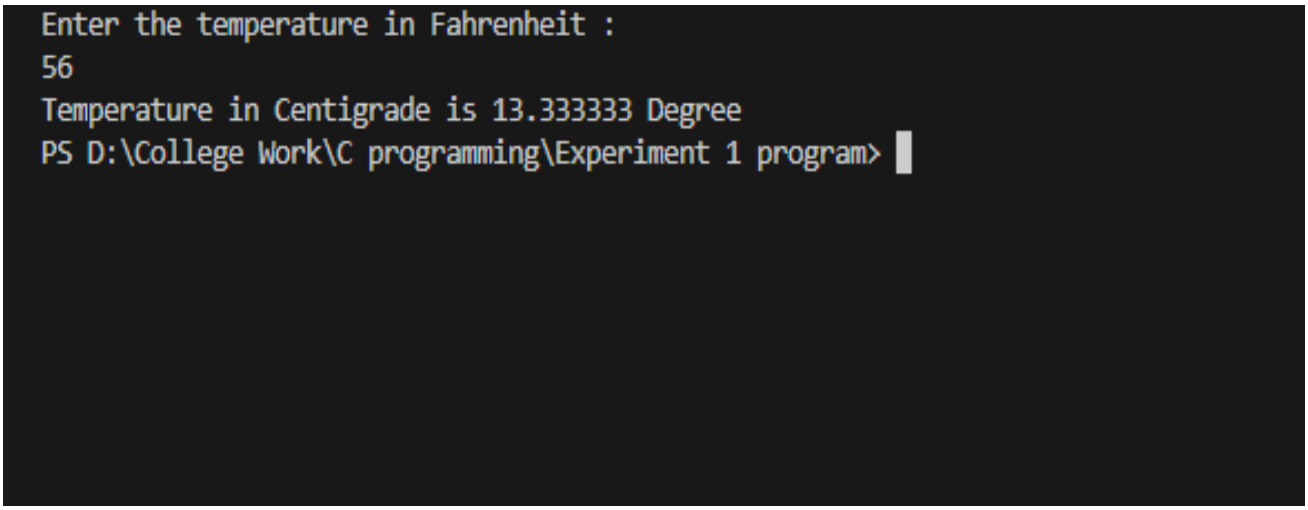


Ques 4 :- Temperature of a city in Fahrenheit degrees is input through the keyboard. Write a program to convert this temperature into centigrade degree.

```
#include<stdio.h>
int main()
{
    float fh , cel;
```

```
   printf("Enter the temperature in Fahrenheit :\n");
   scanf("%f",&fh);
   cel = (fh-32)*5/9; // formula of changing temperature Fahrenheit to celcius
   printf("Temperature in Centigrade is %f Degree",cel);
}
```

Output of the Code :-



Ques 5 :- The length and breadth of a rectangle and radius of a circle are input through the keyboard. Write a program to calculate the area and perimeter of the rectangle, and the area and circumference of the circle.

```
#include <stdio.h>
int main()
```

```
{
   float length, breadth, radius, area_rectangle, per_rectangle,
circum_circle, area_circle;
   printf("Enter the length and breadth of the Rectangle :\n");
   scanf("%f %f", &length, &breadth);
   if (length <=0 || breadth <=0)
   {
      printf("Enter the valid length and breadth of rectangle\n");
   }
   else
   {
      printf("Enter the radius of the Circle :\n");
      scanf("%f", &radius);
      if (radius <=0)
      {
         printf("Enter the valid radius of a Circle\n");
      }
      else
      {
         area_rectangle = length * breadth;
         per_rectangle = 2 * (length + breadth);
         area_circle = 3.14 * radius * radius;
         circum_circle = 2 * 3.14 * radius;
```

```
        printf("Area of the rectangle is %f\n", area_rectangle);
        printf("Perimeter of the rectangle is %f\n", per_rectangle);
        printf("Area of the circle is %f\n", area_circle);
        printf("Circumference of the circle is %f\n", circum_circle);
    }
  }
}
```

Output of the Program :-

```
Enter the length and breadth of the Rectangle :
45
55
Enter the radius of the Circle :
8
Area of the rectangle is 2475.000000
Perimeter of the rectangle is 200.000000
Area of the circle is 200.960007
Circumference of the circle is 50.240002
PS D:\College Work\C programming\Experiment 1 program>
```

Ques 6 :- Paper of size A0 has dimensions 1189 mm x 841 mm. Each subsequent size A(n) is defined as A(n-1) cut in half parallel to shorter sides. Thus paper of size A1 would have dimensions 841mm x 594 mm. Write a program to calculate and print paper size A0,A1,A2, …..A8.

```
#include<stdio.h>
int main()
{
   int width = 1189, height = 841,i,temp;
   for(i=0; i<=8; i++)
   {
      printf("A%d has dimensions %d mm x %d mm\n",i,width,height);
      temp = width;
      width = height;
      height = temp/2;
   }
}
```

Output of the Program :-

```
A0 has dimensions 1189 mm x 841 mm
A1 has dimensions 841 mm x 594 mm
A2 has dimensions 594 mm x 420 mm
A3 has dimensions 420 mm x 297 mm
A4 has dimensions 297 mm x 210 mm
A5 has dimensions 210 mm x 148 mm
A6 has dimensions 148 mm x 105 mm
A7 has dimensions 105 mm x 74 mm
A8 has dimensions 74 mm x 52 mm
PS D:\College Work\C programming\Experiment 1 program>
```