Problem Description 1:
Write a program that prompts the user to insert an integer value, a decimal number, and his/her name and print the inserted

SOLUTION

```c
#include <stdio.h>

int main()
{
    int num1;
    float num2;
    char name[20];

    printf("Enter a Number: ");
     scanf("%d", &num1);

     printf("Enter a decimal number: ");
     scanf("%f", &num2);

     printf("Enter your name: ");
     scanf("%s", name);

     printf("The Number is : %d\n", num1);
     printf("The Decimal Number is : %f\n", num2);
     printf("Your name  is : %s \n", name);
     return 0;
}

```

```
Enter a Number: 90
Enter a decimal number: 99.99
Enter your name: Bijoy
The Number is : 90
The Decimal Number is : 99.989998
Your name  is : Bijoy
```

Problem Description 2:
Write a program that reads in the radius of a
circle and prints the circle's diameter, circumference, and area
.

SOLUTION

```c
#include <stdio.h>

int main()
{
    float radius, circumference, area, diameter;

    printf("Enter the radius of the circle: ");
    scanf("%f", &radius);

      diameter = 2 * radius;
      circumference = 2 * 3.14159 * radius;
      area = 3.14159 * radius * radius;

      printf("The circle's diameter is: %f\n", diameter);
      printf("The circle's circumference is: %f\n",
  circumference);
      printf("The circle's area is: %f\n", area);

      return 0;
 }

```

```
Enter the radius of the circle: 256.3
The circle's diameter is: 512.599976
The circle's circumference is: 1610.378906
The circle's area is: 206370.046875
```

Problem Description:3

Write a program that reads in 8 numbers and prints their mean, median and standard deviation.

SOLUTION

```c
#include<stdio.h>
#include<math.h>
int main()
{
    int i,j,n,temp;
    float mean,standard_deviation,median,sum=0.0;
    int a[20];
    printf("Enter the value of n:\n");
    scanf("%d",&n);
     printf("Enter %d elements:\n",n);
     for(i=0;i<n;i++)
     {
         scanf("%d",&a[i]);
     }
     for(i=0;i<n;i++)
     {
         sum+=a[i];
     }
     mean=sum/n;
     sum=0.0;
     for(i=0;i<n;i++)
     {
         sum=sum+pow((a[i]-mean),2);
     }
     standard_deviation=sqrt(sum/n);
     for(i=0;i<n;i++)
     {
         for(j=i+1;j<n;j++)
         {
             if(a[i]>a[j])
             {
                 temp=a[i];
                 a[i]=a[j];
                 a[j]=temp;
```

```
            }
        }
    }
    if(n%2==0)
    {
        median=(a[(n-1)/2]+a[n/2])/2.0;
    }
    else
    {
        median=a[n/2];
    }
    printf("Mean = %.2f\n", mean);
    printf("Median = %.2f\n", median);
    printf("Standard Deviation = %.2f",
  standard_deviation);
    return 0;
}
```

```
Enter the value of n:
8
Enter 8 elements:
2
3
5
8
9
6
4
2
Mean = 4.88
Median = 4.50
Standard Deviation = 2.47
```

Problem Description: 4

Convert Celsius to Fahrenheit unit. Take the value of C as input from the user and calculate the value of F.

Procedure: Try to write the C code by using basic arithmetic operations. Try to understand the problem by seeing the sample input/output

given below.

Sample Input:

Insert numbers: Enter the Celsius value: 32

Sample Output:

The Fahrenheit value is: 89.6

SOLUTION

```c
#include <stdio.h>

int main(void)
{
    float C, F;
    printf("Enter the Celsius value: ");
    scanf("%f", &C);

    F = (C * 9 / 5) + 32;

     printf("The Fahrenheit value is: %.1f", F);

     return 0;
}

```

```
Enter the Celsius value: 96
The Fahrenheit value is: 204.8
```

Problem Description: 5

Write a program that will prompt the user for two integers a and b. Then swap (interchange) the values of a and b. That means, a should get the value of b and b should get the value of a.

Sample Input:

Enter a: 7

Enter b: 3

SOLUTION

```
1. #include<stdio.h>
2. int main() {
3.     int a,b,c;
4.     printf("Enter the value of A:");
5.     scanf("%d", &a);
6.     printf("Enter the value of B:");
7.     scanf("%d", &b);
8.     c = a;
9.     a = b;
10.     b = c;
11.     printf("The value of A: %d\n",a);
12.     printf("The value of B: %d\n",b);
13. }
14.
15.
```

```
Enter the value of A:25
Enter the value of B:65
The value of A: 65
The value of B: 25
```