Programming with C Language

Tutorial 07 – Functions in C Language

1. Write a function that will read 2 numbers and calculate and display sum and difference.

```
#include<stdio.h>
void displaySD()
{
   int a,b,sum,dif;
   printf("Enter 2 Numbers - ");
   scanf("%d %d",&a,&b);
   sum=a+b;
   dif=a-b;
   printf("The Sum Is %d\n",sum);
   printf("The Difference Is %d\n",dif);
}
int main()
{
   displaySD();
}
```

2. Write a function that accepts 2 numbers as parameters and calculate and display sum and difference.

```
#include<stdio.h>

void displaySD(int a,int b)

{

   int sum,dif;

   sum=a+b;

   dif=a-b;

   printf("The Sum Is %d\n",sum);

   printf("The Difference Is %d\n",dif);

}

int main()

{

   int c,d;

   printf("Enter 2 Numbers - ");

   scanf("%d %d",&c,&d);

   displaySD(c,d);
```

```
    }
```

3. Write a function that accepts 2 whole numbers as parameters and calculate and return the product.

```
#include<stdio.h>
int product(int a,int b)
{
  return a*b;
}
int main()
{
  int c,d;
  printf("Enter 2 Numbers - ");
  scanf("%d %d",&c,&d);
  printf("Product Is %d",product(c,d));
    }
```

4. Write a function that accepts 2 whole numbers as parameters and calculate and return the quotient.

```
#include<stdio.h>
int quotient(int a,int b)
{
  return a/b;
}
int main()
{
  int c,d;
  printf("Enter 2 Numbers - ");
  scanf("%d %d",&c,&d);
  printf("Quotient Is %d",quotient(c,d));
    }
```

5. Write a function to read 2 numbers and display the sum. Call this function from the main function several times.

```
#include<stdio.h>
int sum()
{
```

```
   int c,d,tot;
   printf("Enter 2 Numbers - ");
   scanf("%d %d",&c,&d);
   tot=c+d;
   printf("Sum Is %d\n",tot);

}
int main()
{
   sum();
   sum();
   sum();
   sum();
   sum();
      }
```

6. Write a function which accepts 2 integers as parameters and display the sum, difference and product using a single printf statement.

```
#include <stdio.h>
void sdp(int a, int b) {
 int sum, dif, pro;
 sum = a + b;
 dif = a - b;
 pro = a * b;
 printf("The Sum Is %d\nThe Difference Is %d\nThe Product Is %d\n", sum, dif,
       pro);
}
int main() {
 int c, d;
 printf("Enter 2 Numbers - ");
 scanf("%d %d", &c, &d);
 sdp(c, d);
      }
```

7. Write a function which accepts an integer and a float value as parameters and return the product as a double value. Display the result from the main function.

```
#include<stdio.h>
```

```
double product(int a,float b)
{
   return a*b;
}
int main()
{
   int c;
   float d;
   printf("Enter The Integer - ");
   scanf("%d",&c);
   printf("Enter The Float Value - ");
   scanf("%f",&d);
   printf("Product Is %f",product(c,d));
}
```

8. Give the function header for each of the following functions.
   a. Function hypotenuse that takes two double-precision floating-point arguments, side1 and side2, and returns a double-precision floating-point result.

      double hypotenuse(double a,double b){}

   b. Function smallest that takes three integers, x, y, z, and returns an integer.
      int smallest(int x,int y,int z){}

   c. Function instructions that does not receive any arguments and does not return a value.
      [Note: Such functions are commonly used to display instructions to a user.]

      void instructions(){}

   d. Function intToFloat that takes an integer argument, number, and returns a floatingpoint result.
      float intToFloat(int a,float b){}