Basic Programming Lab

— — 0x09

Function Declaration

Syntax:

```
return_data_type function_name (parameters)
{
	//code
}
```

// Program to print hello world using function

```
#include <stdio.h>

void Greet();

int main()
{
	Greet();
	return 0;
}

void Greet()
{
	printf("\nHello World");
}
```

Function Types

1 - Library Functions

- printf
- scanf
- sqrt

2 - User Defined Functions

- main

Category of Function

1- With no arguments and no return value

```
#include <stdio.h>
void Sum_Of_Two_Nos_1(void);

int main()
{
  Sum_Of_Two_Nos_1();
  return 0;
}

void Sum_Of_Two_Nos_1()
{
  int Number_1, Number_2, Result;
  printf("\nEnter First Number: ");
  scanf("%d", &Number_1);
  printf("\nEnter Second Number: ");
  scanf("%d", &Number_2);
  Result = Number_1 + Number_2;
  printf("\nFirst Number + Second Number = %d\n",Result);
}
```

2- With arguments but no return value

```
#include <stdio.h>

void Sum_Of_Two_Nos_2(int Number_1, int Number_2);

int main()
{
  int Number_1, Number_2;
  printf("\nEnter First Number: ");
  scanf("%d", &Number_1);
  printf("\nEnter Second Number: ");
  scanf("%d", &Number_2);
  Sum_Of_Two_Nos_2(Number_1, Number_2);
  return 0;
}

void Sum_Of_Two_Nos_2(Number_1, Number_2)
{
  int Result;
  Result = Number_1 + Number_2;
  printf("\nFirst Number + Second Number = %d\n",Result);
}
```

3- With no arguments but a return value

```
#include <stdio.h>

int Sum_Of_Two_Nos_3();

int main()
{
  int Result;
  Result = Sum_Of_Two_Nos_3();
  printf("\nFirst Number + Second Number = %d\n",Result);
  return 0;
}

int Sum_Of_Two_Nos_3()
{
  int Number_1, Number_2;
  printf("\nEnter First Number: ");
  scanf("%d", &Number_1);
  printf("\nEnter Second Number: ");
  scanf("%d", &Number_2);
  return Number_1 + Number_2;
}
```

4- With arguments and return value

```
#include <stdio.h>

int Sum_Of_Two_Nos_4(int Number_1, int Number_2);

int main()
{
  int Number_1, Number_2;
  int Result;
  printf("\nEnter First Number: ");
  scanf("%d", &Number_1);
  printf("\nEnter Second Number: ");
  scanf("%d", &Number_2);
  Result = Sum_Of_Two_Nos_4(Number_1, Number_2);
  printf("\nFirst Number + Second Number = %d\n",Result);
  return 0;
}

int Sum_Of_Two_Nos_4(Number_1, Number_2)
{
  return Number_1 + Number_2;
}
```

Assignment

//0x09

//Use scanf for input in Every Program
//Do not Use In-Built Functions

1. Write a function to make a calculator.(Category 1)

2. Write a function to swap two numbers. (Category 2)

3. Write a function to print fibonacci series upto n numbers. (Category 2)

4. Write a menu based program to perform following operations

a) Read a Complex No
b) Print a Complex No
c) Add two Complex Nos
d) Subtract two Complex Nos
e) Multiply two Complex Nos

Points to Remember

1. Filetype: .c

2. Naming Convention for Directory: Assignment_X
   where X = Lab No
   example: Assignment_1

3. Naming Convention for File: RollNo_Q_Y.c
   where Y = Question No in that Assignment
   example: 123XXX4567_Q_1.c

Commands:

	Command	Example
Create Directory	mkdir <directory_name>	mkdir test_directory
Create File	vi <filename>	vi test.c
Compile a C Program	gcc <filename>	gcc test.c
Run a C Program	./a.out	

4. Write your details in every program

```
/*
 ------------------------------------------------
|Author : Your_Name                              |
|Roll No: Your_Roll_No                           |
|Department: Your_Department                     |
 ------------------------------------------------
*/
```