## SLIIT CITY UNI

### Higher Diploma in Information Technology

### Introduction to Programming (C++)

**Year 1 Semester 1 – 2024**

**Tutorial 06 – Modularization & Communication between modules**

1. Write a C++ program to print the circumference and area of a circle. The user enters the radius of circle as user input.

   Consider the below function prototypes to implement the functions given.

   ```
   float CalculateArea (int radius);
   float CalculatePerimeter (int radius);
   ```

   Write the main function to take the user input and print the area and perimeter of circle.

   *(Note: Call the function in the main method to print the area and perimeter of circle)*

2. Write a function called **CalculateInterest()** to calculate the interest in bank savings. It takes 3 parameters, the balance, interest rate and the number of withdrawals. If the numbers of withdrawals are greater than 5, then the function returns the interest as 0. If the number of withdrawals is equal to or less than 5 then the interest would be balance into the interest rate.

3. Write a function called **calPayment()** to calculate and return the payment of a customer based on the item he/she purchased. The item codes and the unit price of the items are given in following table.

   | Item code | Price |
   |-----------|-------|
   | 1         | 50    |
   | 2         | 100   |

   The item code and the quantity are parameters of the function. The main program reads item code and the quantity as user inputs, calls **calPayment()** function and displays the payment of a customer.

4.  Write a function called **calBonus ()** to calculate the bonus amount of an employee based on the basic salary. If basic salary is greater than 20000, the bonus amount will be twice of basic salary or otherwise it will be half of the basic salary. The function takes the basic salary as a parameter and returns the bonus amount.

    The main program reads the basic salary of an employee from the keyboard, calls **calBonus ()** function and displays the net salary of an employee.

    Note: Use the below equation to calculate the netsalary.

    **NetSalary = Basic Salary + Bonus**

5.  Write a C++ program to print the message which included the title of the person. The user enters the person's first name, last name, marital status, and gender as user input. Consider the following to write the functions: *Hint: use the global variables*

    A.  Implement a function called **readInputs ()** to read the person's first name, last name, marital status, and gender.

    B.  Implement a function called **processTitle ()** Module to find the title of the person based on the marital status, and gender.

    C.  Implement a function called **PrintMessage ()** Module to print the message.

    D.  Implement the main method to call the respective modules to perform the following tasks.

    - Read the inputs from the user.
    - Find the title.
    - Print the message.

**Sample Output:**

```
Enter first name: Nimali
Enter last name: Perera
Enter gender: Female
Enter Marital Status: Single
Hi Miss Nimali Perera
```