

# United International University B.Sc. in Data Science DS 1502: Programming for Data Science Lab

Coding Test 01: Spring 2024

1. Saima loves buying and selling gadgets. One day, she purchased a used smartphone from a local vendor. She bought it for 5000 TK and then sold it for 6500 TK. She was eager to know whether she made a profit or a loss from this transaction.

Write a Python program to calculate the profit or loss from her smartphone transaction. The program should ask Saima to input the cost price (the price at which she bought the smartphone) and the selling price (the price at which she sold the smartphone). Then, it should determine and display whether Saima made a profit or a loss, and if so, by how much.

#### Sample Input

Enter the cost price: 5000 Enter the selling price: 6500

**Sample Output** 

Saima made a profit of 1500 TK.

#### Sample Input

Enter the cost price: 8000 Enter the selling price: 7000

**Sample Output** 

Saima made a loss of 1000 TK.

2. Write a Python program to calculate the area of a rectangle or a triangle. The program should ask the user to select the shape they want to calculate the area for: rectangle or triangle. Based on the user's selection, the program should then ask for the required dimensions and user will give required inputs. The program will then calculate the area accordingly.

#### Sample Input:

Which shape would you like to calculate the area for? (rectangle/triangle):

rectangle

Enter the length: 5 Enter the width: 3

### **Sample Output:**

The area of the rectangle is: 15 square units.

3. Write a Python program that helps a user to choose a meal from a menu. The menu consists of three items: burger, pizza, and salad. Each item has different size or type options with prices. The user will input their choice of meal and size or type, and the program will calculate and display the total price.

## Sample Input:

Menu:

- 1. Burger
  - a. Regular 120 TK
  - b. Cheeseburger 150 TK
  - c. Veggie Burger 130 TK
- 2. Pizza
  - a. Small 200 TK
  - b. Medium 300 TK
  - c. Large 400 TK
- 3. Salad
  - a. Caesar Salad 100 TK
  - b. Greek Salad 120 TK
  - c. Garden Salad 80 TK

What would you like to order? (Enter the number): 2 Which size of Pizza would you like? (Enter the letter): b