

# (CS1002) Programming Fundamentals

## Assignment 01

### Pseudocode and Flow Charts

**Problem:** Write pseudocode and design of flow charts of simple sequence programs.

1. Write the steps of applying for University Admission.
2. Finding the average of three numbers.
3. Add the four numbers and then take the average of four numbers.
4. Find the area of a Rectangle. (**Area = Length \* Width**)
5. Write the steps to calculate the percentage of student marks based on Math, Science, English, and Urdu. (**Percentage = (Obtained / Total) \* 100**)
6. Calculate the Interest of a Bank Deposit (**Formula "Interest=Amount\*Years\*Rate/100**)
7. Convert Temperature from Fahrenheit (°F) to Celsius (°C) (**Formula:  $C = \frac{5}{9} * (F - 32)$** )
8. Compute the perimeter of a rectangle. (**Perimeter = 2 \* (Length \* Width)**)
9. A brand offered 10% discount on each shirt purchased. The original price of the shirt is 550, find the discounted price of one shirt. Write the pseudocode for this problem statement.
10. Write a program logic that calculates the total of a retail sale. The program should ask the user for the following: the retail price of the item being purchased and the sales tax rate. Once the information has been entered the program should calculate and display the following: the sales tax for the purchase and the total sale.
11. Write a program logic that calculate the total bill of the shopping, a person purchases two keyboards each worth of 100\$, three mouse each worth of 50\$. Calculate the Total in PKR. (**Note: Dollar to PKR 1\$ = 215PKR**)
12. Write a program that calculates the current balance in a savings account. The program should obtain from the user the following information: the starting balance, the total amount of deposits made, and the total amount of withdrawals made. After the program has calculated the current balance, it should be displayed on the screen. Assume one input for deposits and one input for withdrawals. Make the pseudo-code for this problem.

#### NOTE:

- *Plagiarized assignments (copy from each other) will result in 0 marks.*
- *Write your solutions in the MS Word file.*
- *Use draw.io website to draw the Flow charts and paste it in the MS Word file.*
- *Save the MS Word file with the name as <yourRollNo\_yourName>.docx*
- *For example, 24P-0405\_AliKhan.docx*