

# Faculty of Computing

## IT1120 – Introduction to Programming

### Year 1 Semester 1 (2024)

#### Tutorial 04

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1. Write a pseudocode to read three different integers from the keyboard and compute the smallest and largest of these numbers.

#### **MAIN**

**DEFINE** num1, num2, num3, smallest, largest **AS INTEGER**

**PRINT** "Enter the first integer:"

**INPUT** num1

**PRINT** "Enter the second integer:"

**INPUT** num2

**PRINT** "Enter the third integer:"

**INPUT** num3

smallest = num1

largest = num1

**IF** num2 < smallest **THEN**

    smallest = num2

**ENDIF**

**IF** num3 < smallest **THEN**

    smallest = num3

**ENDIF**

**IF num2 > largest THEN**

largest = num2

**ENDIF**

**IF num3 > largest THEN**

largest = num3

**ENDIF**

**PRINT** "The smallest number is:", smallest

**PRINT** "The largest number is:", largest

**ENDMAIN**

2. A credit card company has a promotion for existing customers to introduce new members.

Prizes are given to the customers depending on the number of new members they introduce. For example if a customer has introduced 6 people. Then he/she is entitled to a bag.

New Member	Prize
1	Pen
3	Umbrella
5	Bag
7	Travelling Chair
8	Headphone

Write a pseudocode to input the number of new members a customer has introduced and print the prizes the customer is entitled to.

Test your program **Sample**

**Output:**

**Enter number of customers introduced : 6**

**Your are entitled to a Bag**

**MAIN**

**DEFINE** num\_customers **AS** **INTEGER**

**PRINT** "Enter the number of customers introduced: "

**INPUT** num\_customers

**IF** num\_customers **>=** 8 **THEN**

**PRINT** "You are entitled to a Headphone"

**ELSE IF** num\_customers **>=** 7 **THEN**

**PRINT** "You are entitled to a Travelling Chair"

**ELSE IF** num\_customers **>=** 5 **THEN**

**PRINT** "You are entitled to a Bag"

**ELSE IF** num\_customers **>=** 3 **THEN**

**PRINT** "You are entitled to an Umbrella"

**ELSE IF** num\_customers **>=** 1 **THEN**

**PRINT** "You are entitled to a Pen"

**ELSE**

**PRINT** "You are not entitled to any prize"

**ENDIF**

**ENDMAIN**

3. Ransiri Resort offers discount for full board reservations during the month of December as shown below. Discount is given only for the reservations done for more than 3 days. Room charges per day is Rs 48,000.00.

No of days reserved	Discount rate (%)
< 3 days	No discount
3 – 4 days	10
5 or more	20

Write a pseudocode to enter the start date(day) and end date(day) of the reservation and find out the number of days reserved and the total amount to be paid.

After the start date and end dates are entered, validate the below conditions. If the conditions fail, display error messages and exit from the program.

- Start date and end date cannot be less than 1 or greater than 31
- Start date should be less than the end date

Sample Output 1:

Enter start date : 12

Enter ending date : 15

No of days reserved : 3

Total Amount to be paid : 129600.00

Test your program for three test cases

## MAIN

**DEFINE** start\_date, end\_date, days\_reserved **AS INTEGER**

**DEFINE** room\_charge\_per\_day, total\_amount, discount\_amount,  
total\_amount\_to\_pay **AS DOUBLE**

**PRINT** "Enter start date: "

**INPUT** start\_date

**PRINT** "Enter end date: "

**INPUT** end\_date

**IF** start\_date < 1 OR start\_date > 31 OR end\_date < 1 OR end\_date > 31 **THEN**

**PRINT** "Error: Dates should be between 1 and 31."

**ENDIF**

**IF** start\_date >= end\_date **THEN**

**PRINT** "Error: Start date should be less than end date."

**ENDIF**

days\_reserved = end\_date - start\_date

room\_charge\_per\_day = 48000.00

total\_amount = days\_reserved \* room\_charge\_per\_day

**IF** days\_reserved >= 5 **THEN**

    discount\_rate = 20

**ELSE IF** days\_reserved >= 3 **THEN**

    discount\_rate = 10

**ELSE**

    discount\_rate = 0

**ENDIF**

**discount\_amount = total\_amount \* (discount\_rate / 100.0)**

**total\_amount\_to\_pay = total\_amount - discount\_amount**

**PRINT "No of days reserved: ", days\_reserved**

**PRINT "Total Amount to be paid: ", total\_amount\_to\_pay**

**ENDMAIN**

**Enter start date: 13**

**Enter end date: 15**

**No of days reserved: 2**

**Total Amount to be paid: 96000.00**

**Enter start date: 13**

**Enter end date: 17**

**No of days reserved: 4**

**Total Amount to be paid: 172800.00**

**Enter start date: 13**

**Enter end date: 20**

**No of days reserved: 7**

**Total Amount to be paid: 268800.00**