**Faculty of Computing**

IT1120 – Introduction to Programming

Year 1 Semester 1 (2024)

# Tutorial 04

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**

1. 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.



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|  |  |
| --- | --- |
| 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**

1. 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.



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* + 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**