**Example:**

***PROBLEM***

To find the smallest of two numbers.

**STEP1: ANALYZING THEPROBLEM**

|  |  |
| --- | --- |
| GIVEN DATA | REQUIRED RESULTS |
| firstNumber secondNumber | smallestNumber |
| PROCESSING REQUIRED | SOLUTION ALTERNATIVES |
| Compare first number with second number FirstNumber < SecondNumber | 1. Define the two numbers asconstants. 2. Define the two numbers as inputvalues. |

**STEP2: WRITING THE ALGORITHM**

1. Start
2. Read firstNumber andsecondNumber.
3. If firstNumber < secondNumber then smallestNumber = firstNumber Else smallestNumber =secondNumber
4. WritesmallestNumber.
5. Exit

**Question # 01:**

The marks obtained by a student in 5 different subjects are input through the keyboard.

The student

gets a division as per the following rules: Percentage above or equal to 60 First division Percentage between 50 and 59 Second division Percentage between 40 and 49 Third division Percentage less than 40 Fail

Write a program to solve the problem.

**Question # 02:**

An admission charge for The Little Rep Theater varies according to the age of the person. Develop a solution to print the ticket charge given the age of the person. The charges are as follows:

|  |  |
| --- | --- |
| a. Over 55: | PKR 10.00 |
| b. 21–54: | PKR 15.00 |
| c. 13–20: | PKR 10.00 |
| d. 3–12: | PKR 5.00 |
| e. Under 3: | Free |

**Question # 03:**

Write a program to check data using the following criteria. The data are assumed correct when

1. Number is less than1000
2. Number ispositive.
3. Number is divisible by2

**Question # 04:**

A hotel has a pricing policy as follows:

1. 2 people:$85
2. 3 people:$90
3. 4 people:$95
4. Additional people: $6 perperson

If the customer is staying on company business, there is a 20% discount. If the customer is over60

years of age, there is a 15% discount. A customer does not receive both discounts.

Given the above data, print the cost of the room.

**Question # 05:**

Write if statements to do the following:

1. If character variable taxCode is ’T’, increase price by adding the taxRate percentage of price toit.
2. If integer variable opCode has the value 1, read values for X and Y and calculate and print theirsum.
3. If integer variable currentNumber is odd, change its value so that it is now 3 times currentNumberplus 1 otherwise change its value so that it is now half of currentNumber.
4. Assign true or 1 to the boolean variable leapYear if the integer variable year is a leap year. (Aleapyear is a multiple of 4, and if it is a multiple of 100, it must also be a multiple of 400.)