Conditional

Sunday, 30 July 2023 7:24 AM

1. Write a program that reads the students marks as input and prints PASS or FAIL. If the student score more than 50, print PASS.
2. Given the length of the box, check if it is a Rectangle or Square
3. Write a Program that reads a temperature and checks if the given temperature is between 15 and 40. print 'Can go for a Walk' if it is between 15 and 40.
4. Write a Program that reads the scores A and B of two players and checks if one of the scores is greater than 300 and the sum of the scores is less than 500. Print 'Can Team Up' if one the scores is greater than 300 and the sum of the scores is less than 500, otherwise print 'Cannot Team Up'
5. Give three angles of a triangle, write a program to check whether the triangle is valid or not.
6. A company decided to give a bonus of 5% to an employee if his/her years of service is more than five years. Write a program that reads an employee's salary and years of service and decides whether the employee gets the bonus or not.
7. Write a program that reads a two-digit number N and cheks if any of the given conditions is satisfied
    a. The sum of digits of N is equal to 7
    b. One of the digits of N is equal to 7
    c. N is divisible by 7
    d. Print "Special Number if any of the given conditions is satisfied. Otherwise, print 'Normal Number'
8. Write a Program that read a string S and checks if all the given conditions are satisfied
    a. The first three characters of S is NXT
    b. The remaining Characters of S contain a Number. Number is divisible by 2 or 7
    c. Print 'Special String' f any of the given conditions is satisfied. Otherwise, print 'Not a Special String'
9. Write a Program that read a number N and checks if the last digit of N is equal to the last digit of the square of N
10. Write a program that reads two numbers A and B, and checks if sum of squares of A and B is greater than or equals to 60.

Advanced Conditional

---

1. In this problem, you need to write a program to calculate the electricity bill for a

household, based on the units of electricity the household consumed. The price for unit varies based on the slab.

The charges per unit for different slabs are as mentioned below:
For the first 50 units (0-50), the charge is 2/unit For the next 100 units (51-150), the charge is 3/unit For the next 100 units (151-250), the charge is 5/unit For above 250 units (251 and above), the charge is 8/unit
Apart from these charges, there is also an additional surcharge of 20% on the total amount is added to the bill.

Explanation

For example, if the given number of units is 50.

```
Charges 2/unit for 0 to 50 units   ⇒  50 x 2   = 100
Charges 3/unit for 51 to 150 units ⇒   0 x 3   =   0
Charges 5/unit for 151 to 250      ⇒   0 x 5   =   0
Charges 8/unit for 251 and above   ⇒   0 x 8   =   0
-----------------------------------------------------
Total                              ⇒             100
Surcharge (20 % of Bill)           ⇒ 100 x 0.2 =  20
-----------------------------------------------------
Bill                               ⇒             120
-----------------------------------------------------
```

So the total bill should be 120.0

For example, if the given number of units is 200.

```
Charges 2/unit for 0 to 50 units   ⇒  50 x 2   = 100
Charges 3/unit for 51 to 150 units ⇒ 100 x 3   = 300
Charges 5/unit for 151 to 250      ⇒  50 x 5   = 250
Charges 8/unit for 251 and above   ⇒   0 x 8   =   0
-----------------------------------------------------
Total                              ⇒             650
Surcharge (20 % of Bill)           ⇒ 650 x 0.2 = 130
-----------------------------------------------------
Bill                               ⇒             780
-----------------------------------------------------
```

So the total bill should be 780.0

2. Write a program that reads an amount A and prints the minimum number of 500,50,10 and 1 rupee notes required for the given amount.

Explanation

For example, if the given amount `A = 1543` ,

- The number of **500** rupee notes required for **1543** is **3**. (`1543 / 500 = 3.086`)
  - The remaining amount is **43**. (`1543 - (500 * 3) = 43`)
- The number of **50** rupee notes required for **43** is **0**. (`43 / 50 = 0.86`)
- The number of **10** rupee notes required for **43** is **4**. (`43 / 10 = 4.3`)
  - The remaining amount is **3**. (`1543 - (500 * 3) - (10 * 4) = 3`)
- The number of **1** rupee notes required for **3** is **3**. (`3 / 1 = 3`)

```
Number of 500 rupee notes  ⇒ 500 × 3 = 1500
Number of 50 rupee notes   ⇒  50 × 0 =    0
Number of 10 rupee notes   ⇒  10 × 4 =   40
Number of 1 rupee notes    ⇒   1 × 3 =    3
-----------------------------------------------
Total                      ⇒             1543
-----------------------------------------------
```