Python DAY 8

Chapter 7 Making Decisions

7.1 Using If, if-else, if-elif-else Construct

Decision Making Constructs are useful to execute a particular code based on some conditions. Code can be executed conditionally using if construct. Other optional decisions are elif and else. The if statement is one of the easiest methods of making decisions in Python. It states that if a condition is true, Python should execute the steps that follow. There is no switch case in python. You can only use if...elif..else construct to select options. The Dictionary datatype can also be used instead of switch case.

There are three situations to use the if statement

- if elif else evaluates multiple true or false condition

Example 3

When you wish to check if number1 is greater or number2 is greater or if both are equals.

```
number1=int(input("Enter Number1 : "))
number2=int(input("Enter Number2 : "))
if number1==number2:
                print("Both are equal")
elif number1>number2:
        print("number1 is greater")
else:
        print("number2 is greater")
```

Task

If.....else If.....else Questions

1. write a program to input the marks of a student print the result as follows
   Marks result
   Less than 35 = Fail
   35 or more but less than 45 = Pass class
   45 or more but less than 60 = 2nd class
   60 or more but less than 75 = 1st class
   75 or more but less than 90 = distinction
   90 or more = merit
   If the marks are less than 0 or greater than 100, print INVALID Marks

2. The rate of interest varies as per the amount of loan taken as shown below
   Amount of loan taken rate of interest
   below 10000 = 5%
   10000 - 50000 = 7%
   above 50000 = 10%
   input the amount of loan calculate and print the simple interest for 10 years

3. A wholesaler offers discount as follows:
   If order amount is not exceeding Rs. 10000 then discount rate is 5% If order amount exceed Rs 10000 but not exceeding Rs 25000 then discount rate is 10% if order amount exceed Rs. 25000 then discount rate is 15% write a program to input item number, quantity ordered, unit price and then print item number, order amount, discount and net amount.

4. write a program to input the gross income (gi), the rate of income tax (itax), is as per following schedule
   Gross Income Rate Of Income Tax
   First 100000 = Nil
   Next 50000 = 10%
   Next 100000 = 20%
   Excess = 30%
   Calculate and print gross income, income tax and net income (ni) with appropriate message, where net income = gross income - income tax.

5. write a program to input bil number (bno) and sales amount (sales)
   calculate sales tax (stax) as follows
   Sales = Sales Tax
   First 3500 = 2.5%
   Next 5000 = 3.75%
   Next 7500 = 4.25%
   Excess = 5%
   Also include statements to print the details of bill number, sales amount, sales tax and total amount (tamt).

6. Electricity charges are computed as follows
   Unit Consumed Rate per unit
   First 100 unit minimum Rs. 50
   next 500 unit 70 paise per unit
   next 1000 unit 80 paise per unit
   excess 90 paise per unit
   If the bill amount exceeds Rs. 1000 a surcharge of 10% of amount exceeding Rs 1000 is added to the bill amount. Write a program to input consumer number and units consumed and then print consumer number, unit consumed, and bill

amount.