

MCA11 Programming with Python

Handout 2 – if statement

1. Write a script that asks a user for a number. The script adds 3 to that number. Then multiplies the result by 2, subtracts 4, subtracts twice the original number, adds 3, then prints the result.
2. Take input of age of 3 people by user and determine oldest and youngest among them.
3. A company decided to give bonus of 5% to employee if his/her year of service is more than 5 years. Ask user for their salary and year of service and print the net bonus amount.
4. A shop will give discount of 10% if the cost of purchased quantity is more than 1000. Ask user for quantity Suppose, one unit will cost 100. Judge and print total cost for user.
5. A school has following rules for grading system:
 - a. Below 25 - F
 - b. 25 to 45 - E
 - c. 45 to 50 - D
 - d. 50 to 60 - C
 - e. 60 to 80 - B
 - f. Above 80 - AAsk user to enter marks and print the corresponding grade.
6. A student will not be allowed to sit in exam if his/her attendance is less than 75%. Take following input from user Number of classes held Number of classes attended. And print percentage of class attended Is student is allowed to sit in exam or not.
7. Modify the above question to allow student to sit if he/she has medical cause. Ask user if he/she has medical cause or not ('Y' or 'N') and print accordingly.
8. A toy vendor supplies three types of toys: Battery Based Toys, Key-based Toys, and Electrical Charging Based Toys. The vendor gives a discount of 10% on orders for battery-based toys if the order is for more than Rs. 1000. On orders of more than Rs. 100 for key-based toys, a discount of 5% is given, and a discount of 10% is given on orders for electrical charging based toys of value more than Rs. 500. Assume that the numeric codes 1,2 and 3 are used for battery based toys, key-based toys, and electrical charging based toys respectively. Write a program that reads the product code and the order amount and prints out the net amount that the customer is required to pay after the discount.

9. A function f is defined as follows:

$$\begin{aligned} f(x) &= ax^3 - bx^2 + cx - d, & \text{if } x > k \\ &= 0, & \text{if } x = k \\ &= -ax^3 + bx^2 - cx + d, & \text{if } x < k \end{aligned}$$

Write a program that reads a, b, c, d, k and x and prints the value of f(x).

10. Write a program to do the following operations :

Read any two positive integer numbers (say n1 & n2) and one character type operator (say opr). Note that opr is any mathematical operator. Depending upon the operator, do the

appropriate operation. e. g. if opr is '+' then the display the value obtained by evaluating the expression (n1 + n2).

11. A transport company charges the fare according to following table:

| Distance | Charges |
|----------|-----------|
| 1-50 | 8 Rs./Km |
| 51-100 | 10 Rs./Km |
| > 100 | 12 s/Km |

Ask user to enter the distance and compute the fare.

12. Write a program that asks users for their favorite color. Create the following output (assuming "red" is the chosen color). Use "+" and "*".

redredredredredredredredredred

red red

red red

redredredredredredredredredred

13. Write a script that asks someone to input their first name, last name and phone number. "If the user does not type at least some characters for each of these, print "Do not leave any fields empty" otherwise print "Thank you". (Hint: if a variable is empty, its value will be "false".)"