




Assignment-02

(Assignment on if-else Conditional Statement)

1. Write a Python program to get a number from the user and print whether it is positive or negative.
[Test Data-- Input number: 35, Expected Output : Number is positive]
2. Write a Python program for checking whether the given number is an even number or not.
[Example: Input: 2 Output: 2 is Even number
Input: 13 Output: 13 is Odd number]
3. Take values of length and breadth of a rectangle from user and check if it is square or not.
4. Write a python program to print the smallest and largest number from the given three numbers (integers) as input. Use only one input() to read the values.
[Example: Input: 2 3 -5 Output: -5 smallest and 3 is largest]
5. Write a Python program that keeps a number from the user and generates an integer between 1 and 7 and displays the name of the weekday.
[Weeks starts with Monday;
Test Data: Input number: 3 Expected Output : Wednesday]
6. A student will not be allowed to sit in university examination if his/her attendance is less than 75%. Write a Python program to decide whether a student will be allowed to sit for the examination or not after taking "Number of classes held" and "Number of classes attended" from user. Also print % of class the student attended.
[hints: Calculate % of attendance from number of class held and attended and then decide allowed for exam or not]
7. A company decided to give a bonus of 5% to an employee if his/her year of service is more than 5 years. Ask users for their salary and year of service and print the net bonus amount.
8. Write A python program to check whether a year is a leap year or not.
[Hints: An year is a leap year if (i) it is a multiple of 4,
(ii) multiple of 400 and not a multiple of 100.
Example: 1900,1767 is not leap year
1600, 1460, 2016 is leap year]

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9. Write a Python program to find the number of days in a month.

[Test Data : Input a month & year: 2 2016

Expected Output : February 2016 has 29 days]

10. Ask user to enter age, sex (M or F), marital status (Y or N) and then using following rules print their place of service.

if employee is female, then she will work only in urban areas.

if employee is a male and age is in between 20 to 40 then he may work in anywhere

if employee is male and age is in between 40 to 60 then he will work in urban areas only.

And any other input of age should print "ERROR".

11. Design a Python Script to determine the Roots of a quadratic equation ($x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$). Your program should able to show both the real and imaginary roots

[hints: you can use **num=complex(a,b)** to create a complex number **a+b*j** . on requirement The **real part** can be accessed using the function **x=num.real** and **imaginary part** can be represented by **y=num.imag**

Roots of a quadratic equation $a*x^2+b*x+c$, can be found using the formula

$x = \frac{-b \pm \sqrt{b^2 - 4*a*c}}{2*a}$]

12. Write a Python program to check whether a given integer (1 to 9999) is palindrome or not.

[A palindromic number (also known as a numeral palindrome or a numeric palindrome) is a number (such as 16461) that remains the same when its digits are reversed. Ex: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 22, 33, 44, 55, 66, 77, 88, 99, 101, 111, 121, 131, 141, 151,... etc.

[Example: Input: 121

Output: 121 is Palindrome number

Input: 17

Output: 17 is not a Palindrome number]

13. Write a Python program to compute whether an integer number [upto 4 digit] is an Armstrong number or not.


[A positive integer is called an Armstrong number (of order n) if

$abcd... = a^n + b^n + c^n + d^n + ...$

In the case of an Armstrong number of 3 digits, the sum of cubes of each digit is equal to the number itself. For example, 153 is an Armstrong number because

$153 = 1*1*1 + 5*5*5 + 3*3*3$]

In the case of an Armstrong number of 4 digits, the sum of power 4 of each digit is equal to the number itself. For example, 1634 is an Armstrong number because

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$$1634=1*1*1*1+6*6*6*6+3*3*3*3+4*4*4*4]$$

14. Write a python script to calculate the grade of a student appearing in 6 subjects in the current semester. Grade may be calculated based on the average of the subjects as follows

Average	90- 100	80-89	70-79	60-69	Below 60
Grade	Outstanding	Excellent	Average	Below average	Fail

15. A supermarket announces a special discount as given in the table 1 as a part of their promotion. But to avoid bulk purchase they restricted the maximum allowed quantity on purchase for each of the items [Table 2]. If quantity purchase exceeds the Maximum limit then it will reduce to the limiting value. Calculate the Gross amount, Discount amount and Net Payable to the user.

Table- 1

Total amount	Upto 1499	1500-1999	2000-2499	2500-2999	>3000
Discount %	0	5	10	12	15

Table-2

Item Name	Item1	Item2	Item3	Item4	Item5
Unit Price	149	249	399	299	199
Max quantity allowed	5	3	3	5	4

----- End of Assignment 02-----