Python While loops Practice Questions

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1. Write a Python program to find those numbers which are divisible by 7 and multiple of 5, between 1500 and 2700 (both included).

2. Write a Python program to convert temperatures to and from celsius, fahrenheit.

[Formula : c/5 = f-32/9 [where c = temperature in celsius and f = temperature in fahrenheit]

Expected Output :

60°C is 140 in Fahrenheit

45°F is 7 in Celsius

3. Write a Python program to guess a number between 1 to 9.

Note : User is prompted to enter a guess. If the user guesses wrong then the prompt appears again until the guess is correct, on successful guess, user will get a "Well guessed!" message, and the program will exit.

4. Write a Python program to construct the following pattern, using a nested for loop.

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

5. Write a Python program that accepts a word from the user and reverse it.

6. Write a Python program to count the number of even and odd numbers from a series of numbers.

Sample numbers : numbers = (1, 2, 3, 4, 5, 6, 7, 8, 9)

Expected Output :

Number of even numbers : 5

Number of odd numbers : 4

7. Write a Python program that prints each item and its corresponding type from the following list.

Sample List : datalist = [1452, 11.23, 1+2j, True, 'w3resource', (0, -1), [5, 12], {"class":'V', "section":'A'}]

8. Write a Python program that prints all the numbers from 0 to 6 except 3 and 6.

Note : Use 'continue' statement.

Expected Output : 0 1 2 4 5

9. Write a Python program to get the Fibonacci series between 0 to 50.

Note : The Fibonacci Sequence is the series of numbers :

0, 1, 1, 2, 3, 5, 8, 13, 21, ...

Every next number is found by adding up the two numbers before it.

Expected Output : 1 1 2 3 5 8 13 21 34

10. Write a Python program which iterates the integers from 1 to 50. For multiples of three print "Fizz" instead of the number and for the multiples of five print "Buzz". For numbers which are multiples of both three and five print "FizzBuzz".

Sample Output :

fizzbuzz

1

2

fizz

4

buzz

11. Write a Python program which takes two digits m (row) and n (column) as input and generates a two-dimensional array. The element value in the i-th row and j-th column of the array should be i*j.

Note :

i = 0,1.., m-1

j = 0,1, n-1.

Test Data : Rows = 3, Columns = 4

Expected Result : [[0, 0, 0, 0], [0, 1, 2, 3], [0, 2, 4, 6]]

12. Write a Python program that accepts a sequence of lines (blank line to terminate) as input and prints the lines as output (all characters in lower case).

13. Write a Python program which accepts a sequence of comma separated 4 digit binary numbers as its input and print the numbers that are divisible by 5 in a comma separated sequence.

Sample Data : 0100,0011,1010,1001,1100,1001

Expected Output : 1010

14. Write a Python program that accepts a string and calculate the number of digits and letters.

Sample Data : Python 3.2

Expected Output :

Letters 6

Digits 2

15. Write a Python program to check the validity of password input by users.

Validation :

- At least 1 letter between [a-z] and 1 letter between [A-Z].
- At least 1 number between [0-9].
- At least 1 character from [$#@].
- Minimum length 6 characters.
- Maximum length 16 characters.

16. Write a Python program to find numbers between 100 and 400 (both included) where each digit of a number is an even number. The numbers obtained should be printed in a comma-separated sequence.

17. Write a Python program to print alphabet pattern 'A'.

Expected Output:

```
 ***
 *   *
 *   *
 *****
 *   *
 *   *
 *   *
```

18. Write a Python program to print alphabet pattern 'D'.

Expected Output:

```
****
 *   *
 *   *
 *   *
 *   *
 *   *
 ****
```

19. Write a Python program to print alphabet pattern 'E'.

Expected Output:

```
*****
 *
 *
 ****
 *
 *
 *****
```

20. Write a Python program to print alphabet pattern 'G'.

Expected Output:

```
 ***
 *   *
 *
 * ***
 *   *
 *   *
  ***
```

21. Write a Python program to print alphabet pattern 'L'.

Expected Output:

```
*
 *
 *
 *
 *
 *
 *****
```

22. Write a Python program to print alphabet pattern 'M'.

Expected Output:

```
 *       *
  *       *
  * *   * *
  *   *   *
  *       *
  *       *
  *       *
```

23. Write a Python program to print alphabet pattern 'O'.

Expected Output:

```
 ***
 *   *
 *   *
 *   *
 *   *
 *   *
  ***
```

24. Write a Python program to print alphabet pattern 'P'.

Expected Output:

```
****
 *   *
 *   *
 ****
 *
 *
 *
```

25. Write a Python program to print alphabet pattern 'R'.

Expected Output:

```
****
 *   *
 *   *
 ****
 * *
 *  *
 *   *
```

26. Write a Python program to print the following patterns.

Expected Output:

```
 ****
 *
 *
```

```
  ***
     *
     *
 ****

 oooooooooooooooo
oooooooooooooooo
oooooooooooooooo
oooo
oooo
oooo
oooooooooooooooo
oooooooooooooooo
oooooooooooooooo
              oooo
              oooo
              oooo
oooooooooooooooo
oooooooooooooooo
oooooooooooooooo
```

27. Write a Python program to print alphabet pattern 'T'.

Expected Output:

```
*****
   *
   *
   *
   *
   *
   *
```

28. Write a Python program to print alphabet pattern 'U'.

Expected Output:

```
*   *
```

```
 *   *
 *   *
 *   *
 *   *
 *   *
  ***
```

29. Write a Python program to print alphabet pattern 'X'.

Expected Output:

```
*   *
 *   *
  * *
   *
  * *
 *   *
 *   *
```

30. Write a Python program to print alphabet pattern 'Z'.

Expected Output:

```
*******
     *
    *
   *
  *
 *
*******
```

31. Write a Python program to calculate a dog's age in dog's years.

Note: For the first two years, a dog year is equal to 10.5 human years. After that, each dog year equals 4 human years.

Expected Output:

```
Input a dog's age in human years: 15
The dog's age in dog's years is 73
```

32. Write a Python program to check whether an alphabet is a vowel or consonant.

Expected Output:

```
Input a letter of the alphabet: k
k is a consonant.
```

33. Write a Python program to convert month name to a number of days.

Expected Output:

```
List of months: January, February, March, April, May, June,
July, August
, September, October, November, December
Input the name of Month: February
No. of days: 28/29 days
```

34. Write a Python program to sum of two given integers. However, if the sum is between 15 to 20 it will return 20.

35. Write a Python program to check a string represent an integer or not.

Expected Output:

```
Input a string: Python
The string is not an integer.
```

36. Write a Python program to check a triangle is equilateral, isosceles or scalene.

Note :

An equilateral triangle is a triangle in which all three sides are equal.

A scalene triangle is a triangle that has three unequal sides.

An isosceles triangle is a triangle with (at least) two equal sides.

Expected Output:

```
Input lengths of the triangle sides:
x: 6
y: 8
```

```
z: 12
Scalene triangle
```

37. Write a Python program that reads two integers representing a month and day and prints the season for that month and day.

Expected Output:

```
Input the month (e.g. January, February etc.): july
Input the day: 31
Season is autumn
```

38. Write a Python program to display astrological sign for given date of birth.

Expected Output:

```
Input birthday: 15
Input month of birth (e.g. march, july etc): may
Your Astrological sign is : Taurus
```

39. Write a Python program to display the sign of the Chinese Zodiac for given year in which you were born.

Expected Output:

```
Input your birth year: 1973
Your Zodiac sign : Ox
```

40. Write a Python program to find the median of three values.

Expected Output:

```
Input first number: 15
Input second number: 26
Input third number: 29
The median is 26.0
```

41. Write a Python program to get next day of a given date.

Expected Output:

```
Input a year: 2016
Input a month [1-12]: 08
Input a day [1-31]: 23
The next date is [yyyy-mm-dd] 2016-8-24
```

42. Write a Python program to calculate the sum and average of n integer numbers (input from the user). Input 0 to finish.

43. Write a Python program to create the multiplication table (from 1 to 10) of a number.

Expected Output:

```
Input a number: 6
6 x 1 = 6
6 x 2 = 12
6 x 3 = 18
6 x 4 = 24
6 x 5 = 30
6 x 6 = 36
6 x 7 = 42
6 x 8 = 48
6 x 9 = 54
6 x 10 = 60
```

44. Write a Python program to construct the following pattern, using a nested loop number.

Expected Output:

```
1
22
333
4444
55555
666666
7777777
88888888
999999999
```