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Strings

1. What is String in Python?

2. Is there any difference in ‘a’ or “a” in python?

3. Is there any difference between 1 or ‘1’ in python?

4. Python treats single quotes same as double quotes.(T/F)

5. A string with zero character is called \_\_\_\_\_\_\_\_\_\_ string.

6. Python does not support a character type.(T/F)

7. Write a code to store following String in a variable named ‘str’. This is Amit’s Blog

8. Write the output of the following code:

str1 = "Welcome to my blog"

str2 = "Welcome to my \n Blog"

print(str1)

print(str2)

9. Write the output of the following.

str1 = "Welcome \tto my Blog"

str2 = "Welcome to\n my \tBlog

print(str1)

print(str2)

10. Write the output of the following.

str1 = “”” Welcome to my

blog.

This is for

Class X”””

print(str1)

Write the output of following code- on strings

11) str="hello"

print(str[:3])

12) str[i]str=’My Blog’

a=’ ‘

for i in range(len(str)):

a+=

print(a)

13) str='MyBLog'

a=' '

for i in range(len(str)):

print(a\*str[i])

14)

s='My'

s1='Blog'

s2=s[:1]+s1[len(s1)-1:]

print(s2)

15) print(“My”+’Blog’ \* 2)

16) print(“My” \*3 + “Blog” +’7′)

17) for i in range(2,7,2):

print(i \* '2')

18) for i in range(3,12, 2):

print("a".upper())

19) for i in range(3,12,13):

print("a".upper)

20)s='Welcome to My Site [https://nayaksworld.com](https://nayaksworld.com/) '

print(s.find('come'))

print(s.find('o'))

print(s.find('o', 10, 20))

print(s.find('o', 5, 10))

21. Write a code to create empty string 'str1'

1

22. What do you mean by traversing a string?

23. What is the index value of the first element of a string?

24. What is the index value of the last element of a string?

25. If the length of the string is 10 then what would be the positive index value of the last element?

26. If the length of string is 9, what would be the index value of the middle element?

27. Index value of a string can be in float. (T/F)

28. What type of error is returned by the following statement, if the length of string 'str1' is 10.

print(str1[13])

29. Write the output of the following:

str1 = "Welcome to my Blog"

a. print(str1[-1])

b. print(str1[9])

30. Write a code to assign a string "Hello World"' to a string variable named "str1".

31. Write a program to display each character of the following string in separate line using 'for' loop.

str1 = Welcome to My Blog

32. Write a program to display each character of the following string in separate line using 'while' loop.

str1 = Welcome to My Blog

33. Index value of string "str1" varies from 0 to len(str1)-1. (T/F)

34. Write the positive and negative index value of 'B' in the following string.

"Welcome to my Blog"

35. What do you mean by concatenation of string?

36. Which of the following is an example of concatenation?

a. 6 + 3

b. '6' + '3'

c. 'a' + 'b' + 'c'

37. Write a program to count the length of string without using inbuilt function.

38. Write the output of the following statement.

str1 = "Welcome to my Blog"

for i in str1:

print(i)

print(i, end =' ')

print(i, end = '#')

39. Write the output of the following statement.

str1 = "Amit"

for i in str1:

print(i)

print(i, end =' ')

40. Write the output of the following statement.

51. <https://www.hackerrank.com/challenges/repeated-string/problem>  
  
52. Match the Following

|  |  |
| --- | --- |
| **Column-1** | **Column-2** |
| **Slicing** | **string[range] + ‘x’** |
| **Concatenation** | **string[: – 1]** |
| **Repetition** | **string[range]** |
| **Membership** | **string1 + string2** |
| **Reverse** | **in, not in** |

|  |  |
| --- | --- |
| **Column-1** | **Column-2** |
| **Slicing** | **string[range]** |
| **Concatenation** | **string1 + string2** |
| **Repetition** | **string \* 7** |
| **Membership** | **in, not in** |
| **Reverse** | **string[: – 1]** |

53. Write the code to join string 'str1' and 'str2' and store the result in variable 'str3'

54. The \_\_\_\_\_\_\_\_\_\_\_ operator join the string.

55. What type of error is shown by following code?

>>> 2 + '3'

55. Which operator is used to replicate string?

56. Write the output of the following.

>>> 'A' \* 3

57. Write the output of the following:

for i in range(2,5,2):

print(i \* '@')

58. 'in' or 'not in' are the \_\_\_\_\_\_\_\_\_ operator

59. Write the output of the following

>>> 'h' in 'Hindi'

>>>'i' in 'Hindi'

60. Write the output of the following

for i in "Amit":

print(i in "Amit")

61. Write the output of the following

>>>"string" in "substring"

>>>"string" not in "substring"

62. Write the output of the following:

>>>'tie' == 'ties'

>>>"Amit" != "Amitabh"

>>>"amit" > "Amitabh"

63. Write the full form of ASCII

64. Write the ASCII value of 'A' and 'a'.

65. String Slicing is used to fetch substring from a string. (T/F)

66. Write the output of the following.

S = "Welcome to my Blog"

print(S[2 : 3])

print(S[2 : 10])

print(S[-2 : ])

print(S[-10 : -2 : 2])

67. Strings are mutable.(T/F)

68. Write the output of the following

>>str1 = "Anita"

>>>str1[1] = 'm'

>>>print(str1)

69. Name any two built in functions associated with string.

70. Which function of string returns the numerical value?

71. What is the value returned by find() function for an unsuccessful search?

72. isalpha() returns True if the string contains only alphabet.(T/F)

73. Write the output of the following

str1= "Amit"str1

str2 = "My Blog"

str3 = "#blog"

str4 = "My 1st Blog"

print(str1.isalpha())

print(str2.isalpha())

print(str3.isalpha())

print(str4.isalpha())

Specify the reason if any of the above print statements return False.

74. Write a program to accept strings and display the total number of alphabets.

75. Write a program to accept a string and display the sum of the digits, if any present in string.

for example:

input string : My position is 1st and my friend come on 4th

output : 5

76. Write the output of the following:

>>>a = 123

>>>b = "123"

>>>b.isdigit()

>>>a.isdigit

77. What is the difference between lower() and islower()?

78. Write a program to accept a string and convert it into lowercase.

79. Write a program to count the number of lowercase and uppercase character in a

string accepted from the user.

80. Write the output of the following:

>>>s = "My blog"

>>>s.upper()

>>>s.lower()

>>>s.islower()

>>>s.isupper()

>>>s.isalpha()

>>>s.isdigit()

81. What is the lstrip () function in String?

82. Write the output of the following.(# represents the spaces)

>>>str1 = "Welcome to my Blog"

>>>print(len(str1))

>>>str2 = "###Welcome to my Blog"

>>>print(len(str2))

>>>print(len(str2.lstrip()))

83. Write the output of the following.(# represents the spaces)

>>s>str2 = "###Welcome to my Blog####"-

>>>print(len(str2))

>>>print(len(str2.strip()))

>>>print(len(str2.rstrip()))

84. Write the output of the following.

>>>str1 = "Welcome to my Blog"

>>>print(str1.rstrip('og'))

>>>print(str1.lstrip('We'))

>>>print(str1.strip('Welog))

85. Write the output of the following.

>>>print(len(str1.rstrip('og')))

>>>print(len(str1.lstrip('We')))

>>>print(len(str1.strip('Welog)))

86. isspace() returns True if the string contain only spaces (T/F)

87. Write the output of the following

>>>s1 = " "

>>>s2 = " Amit"

>>>print(s1.isspace())

>>>print(s2.isspace())

88. Define the following function with example

a. istitle()

b.swapcase()

89. Write the output of the following:

str1 = "Welcome to my Blog"

a. print(len(str1))

b. print(capitalize(str1))

90. Write the output of the following.

>>>str1 = "Welcome to my Blog"

>>>x = str1.split()

>>>print(x)

91. Write a program to accept a string and display each word and it's length.

92. Write a program to accept a string and display string with capital letter of each word.

for example, if input string is : welcome to my blog

output string : Welcome To My Blog

93. What is split() function in String?

94. Write the output of the following:

a = "Mummy?Papa?Brother?Sister?Uncle"

print(a.split())

print(a.split('?')

print(a.split('?',1)

print(a.split('?',3)

print(a.split('?',10)

print(a.split('?',-1)

95. Write a program to replace all the word 'do' with 'done' in the following string.

str1 = "I do you do and we all will do"

96. Write the output of the following.

str1 = "I went to Auli"

print(str1.replace("Auli", "Leh"))

print(str1)

97. What is the purpose of find() function in string?

98. Write the output of the following:

str1 = "Welcome to my Blog"

print(str1.find('o'))

print(str1.find('o',3))

print(str1.find('o',7))

print(str1.find('o',7,10))

99. Accept a string and display in reverse order.

100. Write a program to accept a string and display 20 times.

101. Write a program to accept a string in python and display the entire string in uppercase.

102. Write a program to accept a string and display the last three characters of the string.

103. Write a program to accept a string in python and display the entire string in lowercase.

104. Accept a string and display the entire string with the first and last character in uppercase.  
105. Write a program to accept a string and display the first three characters of the string.

*All*

* Write a python program to enter two numbers and find their sum.
* Write a python program to enter two numbers and perform all arithmetic operations.
* Write a python program to enter length and breadth of a rectangle and find its perimeter.
* Write a python program to enter length and breadth of a rectangle and find its area.
* Write a python program to enter the radius of a circle and find its diameter, circumference and area.
* Write a python program to enter length in centimeter and convert it into meter and kilometer.
* Write a python program to enter temperature in Celsius and convert it into Fahrenheit.
* Write a python program to enter temperature in Fahrenheit and convert to Celsius
* Write a python program to convert days into years, weeks and days.
* Write a python program to find power of any number x ^ y.
* Write a python program to enter any number and calculate its square root.
* Write a python program to enter two angles of a triangle and find the third angle.
* Write a python program to enter the base and height of a triangle and find its area.
* Write a python program to calculate the area of an equilateral triangle.
* Write a python program to enter marks of five subjects and calculate total, average and percentage.
* Write a python program to enter P, T, R and calculate Simple Interest.
* Write a python program to enter P, T, R and calculate Compound Interest.
* 19. What does the following expression evaluate to? 13 / 4 + 13 % 4   
  A) 4   
  B) 3   
  C) 3.25   
  D) 4.25   
  E) None of the above
* Which of the following is a keyword in Python?   
  A) int   
  B) void   
  C) float   
  D) return   
  E) All of the above
* Which of the following is a valid variable name in Python?   
  A) do it   
  B) do+1   
  C) 1do   
  D) All of the above   
  E) None of the above
* What does the following print? x = 10 / 4 y = 5 / 2.0 print (x + y)   
  A) 4   
  B) 5   
  C) 4.5   
  D) 7   
  E) None of the above
* Across how many lines will the following program’s output appear?   
  print("how\nnow\tbrown/ncow?" )  
  A) 2  
   B) 4   
  C) 3   
  D) 1   
  E) None of the above
* If the user types: 3.5 followed by: 2, what is the output?   
  a =input()   
  b = int( input() )   
  print (a \* b)   
  A) 3.5   
  B) 3.53.5   
  C) 7   
  D) 6   
  E) None of the above
* What does the following code snippet output?
* A) A   
  B) x   
  C) B   
  D) y   
  E) None of the above
* What does the following code produce as output?   
  i = 1  
  x = 3   
  sum = 0   
  while ( i <= x ):  
   sum += i  
   i += 1   
  print sum   
  A) 12   
  B) 6   
  C) 3   
  D) 1   
  E) None of the above
* What does the following line of code print?   
  print ("\"Have some cookies!\"\\"# my aunt said")   
  A) "Have some cookies!\"  
  B) "Have some cookies!"# my aunt said   
  C) \   
  D) "Have some cookies!"\   
  E) None of the above
* What does the following Python program display?   
  x = 3   
  if ( x == 0 ):  
   print("Am I here?")   
  elif ( x == 3 ):  
   print ("Or here?")   
   print "Or over here?"   
  A) Am I here?   
  B) Or here?   
  C) Am I here? Or here?   
  D) Or here? Or over here?   
  E) Am I here? Or over here?
* Which of the following Boolean expression(s) implement the following statement? x and y are not equal to zero, and they are either both positive or both negative (read carefully)   
  A) ( x < 0 and y < 0 ) or ( x > 0 and y > 0 )   
  B) ( x \* y ) > 0   
  C) ( x < 0 or x > 0 ) and ( y < 0 or y > 0 )   
  D) Two of the above are correct   
  E) All of the above are correct
* If the user inputs: 2, what does the following code snippet print?   
  x = float( input() )   
  if ( x == 1 ):  
   print("Yes")   
  elif ( x == 2 ):   
   print ("Maybe")   
  else:   
   print ("No")   
  A) Yes   
  B) No   
  C) Maybe   
  D) Nothing is printed   
  E) This code will not run at all due to an error
* Given the variables declared below, which expression evaluates to True?   
  a = 3   
  txt = "fun"   
  limit = 10   
  words = 5   
  A) a == limit - words   
  B) not ( words < limit )   
  C) ( a > limit ) or ( len( txt ) < words )   
  D) words \* a < limit   
  E) ( len( txt ) > 0 ) and ( limit - words < a )
* When the following code runs, how many times is the line “x = x \* 2” executed?   
  x = 1   
  while ( x < 20 ):   
   x = x \* 2   
   print (x)   
  A) 2   
  B) 5   
  C) 19   
  D) 4   
  E) 32
* What is the output when this code executes?  
   x = 1   
  while ( x <= 5 ):  
   x=x + 1   
   print x   
  A) 6   
  B) 1   
  C) 4   
  D) 5   
  E) None

***Operators Question Bank****:-*

1. What is the value of the following Python Expression print(36/4)?

* 9.0
* 9

2. What is the output of %print(26)

 1)ValueError

 2)0.33

 3)2

4)5

3. What is the output of the following Python code?

x = 10

y = 50

if (x \*\* 2 > 100 and y < 100):

print(x, y)

* 100 500
* 10 50
* None

4. What is the output of the following addition (+) operator

a = [10, 20]

b = a

b += [30, 40]

print(a)

print(b)

 1)[10, 20, 30, 40]

2)[10, 20, 30, 40]

3)[10, 20]

4)[10, 20, 30, 40]

5. What is the output of the following code

x = 100

y = 50

print(x and y)

 1)True

 2)100

 3)False

 4)50

6. What is the output of the following code?

x = 6

y = 2

print(x \*\* y)

print(x // y)

 1)60

0

 2)36  
 0

 3)66  
 3

 4)36  
 3

7. What is the output of the expression  print(-18 // 4)?

 1)-4

 2)4

3) -5

 4)5

8. What is the output of the following code

1)True True False True

2) False True True True

 3)True True False True

 4)False True False True

9. What is the output of print(10 - 4 \* 2)

1) 2

 2)12

10. Bitwise shift operators (<<, >>) has higher precedence than Bitwise And(&) operator

 1)False

 2)True

11. What is the output of the following assignment operator

y = 10

x = y += 2

print(x)

 1)12

 2)10

 3)SynatxError

12. Which of the following operators has the highest precedence?

  1)not

2) &

  3)\*

  4)+

13. **4** is 100 in binary and **11** is 1011. What is the output of the following bitwise operators?

a = 4

b = 11

print(a | b)

print(a >> 2)

1) 15  
 1

 2)14  
 1

14. What is the output of print(2 \*\* 3 \*\* 2)

 1)64

  2)512

15. What is the output of print(2 \* 3 \*\* 3 \* 4)

  1)216

 2)8

16. Which is the correct operator for power(xy)?  
a) X^y  
b) X\*\*y  
c) X^^y  
d) None of the mentioned

17. Which one of these is floor division?  
a) /  
b) //  
c) %  
d) None of the mentioned

18.What is the order of precedence in python?  
i) Parentheses  
ii) Exponential  
iii) Multiplication  
iv) Division  
v) Addition  
vi) Subtraction  
a) i,ii,iii,iv,v,vi  
b) ii,i,iii,iv,v,vi  
c) ii,i,iv,iii,v,vi  
d) i,ii,iii,iv,vi,v

19.What is the answer to this expression, 22 % 3 is?  
a) 7  
b) 1  
c) 0  
d) 5

20)Mathematical operations can be performed on a string.  
a) True  
b) False

21)Operators with the same precedence are evaluated in which manner?  
a) Left to Right  
b) Right to Left  
c) Can’t say  
d) None of the mentioned

22) What is the output of this expression, 3\*1\*\*3?  
a) 27  
b) 9  
c) 3  
d) 1

23) Which one of the following has the same precedence level?  
a) Addition and Subtraction  
b) Multiplication, Division and Addition  
c) Multiplication, Division, Addition and Subtraction  
d) Addition and Multiplication

24)The expression Int(x) implies that the variable x is converted to integer.  
a) True  
b) False

25) Which one of the following has the highest precedence in the expression?  
a) Exponential  
b) Addition  
c) Multiplication  
d) Parentheses

26) The value of the expressions 4/(3\*(2-1)) and 4/3\*(2-1) is the same.  
a) True  
b) False

27)What will be the value of the following Python expression 4 + 3 % 5

a) 4  
b) 7  
c) 2  
d) 0

28)Evaluate the expression given below if A = 16 and B = 15 ,

A % B // A

a) 0.0  
b) 0  
c) 1.0  
d) 1

29)Which of the following operators has its associativity from right to left?  
a) +  
b) //  
c) %  
d) \*\*

30. What will be the value of x in the following Python expression?

x = int(43.55+2/2)

a) 43  
b) 44  
c) 22  
d) 23

31) What is the value of the following expression?

2+4.00, 2\*\*4.0

a) (6.0, 16.0)  
b) (6.00, 16.00)  
c) (6, 16)  
d) (6.00, 16.0)

32. Which of the following is the truncation division operator?  
a) /  
b) %  
c) //  
d) |

33.What are the values of the following Python expressions?

2\*\*(3\*\*2)

(2\*\*3)\*\*2

2\*\*3\*\*2

a) 64, 512, 64  
b) 64, 64, 64  
c) 512, 512, 512  
d) 512, 64, 512

34 What is the value of the following expression?

8/4/2, 8/(4/2)

a) (1.0, 4.0)  
b) (1.0, 1.0)  
c) (4.0. 1.0)  
d) (4.0, 4.0)

35)What is the value of the following expression?

float(22//3+3/3)

a) 8  
b) 8.0  
c) 8.3  
d) 8.33

36)What will be the output of the following Python expression?

(4.00/(2.0+2.0))

a) Error  
b) 1.0  
c) 1.00  
d) 1

37)What will be the value of X in the following Python expression?

X = 2+9\*((3\*12)-8)/10

a) 30.0  
b) 30.8  
c) 28.4  
d) 27.2

38) Which of the following expressions involves coercion when evaluated in Python?  
a) 4.7 – 1.5  
b) 7.9 \* 6.3  
c) 1.7 % 2  
d) 3.4 + 4.6

39) What will be the output of the following Python expression?

24//6%3, 24//4//2

a) (1,3)  
b) (0,3)  
c) (1,0)  
d) (3,1)

40) Which among the following list of operators has the highest precedence?

+, -, \*\*, %, /, <<, >>, |

a) <<, >>  
b) \*\*  
c) |  
d) %

41) What will be the value of the following Python expression?

float(4+int(2.39)%2)

a) 5.0  
b) 5  
c) 4.0  
d) 4

42) Which of the following expressions is an example of type conversion?  
a) 4.0 + float(3)  
b) 5.3 + 6.3  
c) 5.0 + 3  
d) 3 + 7

43) Which of the following expressions results in an error?  
a) float(‘10’)  
b) int(‘10’)  
c) float(’10.8’)  
d) int(’10.8’)

44)What will be the value of the following Python expression?

4+2\*\*5//10

a) 3  
b) 7  
c) 77  
d) 0

45)The expression 2\*\*2\*\*3 is evaluates as: (2\*\*2)\*\*3.  
a) True  
b) False

46)What will be the output of the following Python code snippet?

bool(‘False’)

bool()

a)True

True

b)False

True

c)False

False

d)True

False

47)What will be the output of the following Python code snippet?

['hello', 'morning'][bool('')]

a) error  
b) no output  
c) hello  
d) morning

48)What will be the output of the following Python code snippet?

**not**(**3**>**4**)

**not**(**1**&**1**)

a)True

True

b)True

False

c)False

True

d)False

False

 49) What will be the output of the following Python code?

['f', 't'][bool('spam')]

a) t  
b) f  
c) No output  
d) Error

50) What will be the output of the following Python code?

l=[**1**, **0**, **2**, **0**, 'hello', '', []]

list(filter(bool, l))

a) Error  
b) [1, 0, 2, 0, ‘hello’, ”, []]  
c) [1, 0, 2, ‘hello’, ”, []]  
d) [1, 2, ‘hello’]

51) What will be the output of the following Python code if the system date is 21st June, 2017 (Wednesday)?

[] **or** {}

{} **or** []

a) []

{}

b) []

[]

c){}

[]

d) {}

{}

52)What will be the output of the following Python code?

**class** Truth:

**pass**

x=Truth()

bool(x)

a) pass  
b) true  
c) false  
d) error

53) What will be the output of the following Python code?

**if** (**9** < **0**) **and** (**0** < -**9**):

**print**("hello")

**elif** (**9** > **0**) **or** False:

**print**("good")

**else**:

**print**("bad")

a) error  
b) hello  
c) good  
d) bad

54) Which of the following Boolean expressions is not logically equivalent to the other three?  
a) not(-6<0 or-6>10)  
b) -6>=0 and -6<=10  
c) not(-6<10 or-6==10)  
d) not(-6>10 or-6==10)

55)What will be the output of the following Python code snippet?

**not**(**10**<**20**) **and** **not**(**10**>**30**)

a) True  
b) False  
c) Error  
d) No output

**56)Evaluate the expression given below if A = 16 and B = 15**

**A B // A**

* 0.0
* 0
* 1.0
* 1

**57)Which of the following operators has its associativity from right to left?**

* +
* \\
* %
* \*\*

**58)What will be the value of x in the following Python expression?**

* **x =int(** 43.5522)
* 43
* 44
* 22
* 23

**59)What is the value of the following expression?**

* 8//4//(3//2)%9

**60)What are the values of the following Python expressions?**

**2\*\*(3\*\*2) (2\*\*3)\*\*2 2\*\*3\*\*3**

* 64, 512, 64
* 64, 64, 64
* 512, 512, 512
* 512, 64, 512

**61)What is the value of the following expression?**

8/4/2, 8/(4/2)

* (1.0, 4.0)
* (1.0, 1.0)
* (4.0. 1.0)
* (4.0, 4.0)

**62)What is the value of the following expression?**

* 22**//3+3/3)**

**63)What will be the output of the following Python expression?**

* (4.00/(2.0+2.0))

**64)What will be the output of the following Python expression?**

* 24**//6%3, 24//4//2**

**65)Which of the following expressions is an example of type conversion?**

* 4.0 + float(3)
* 5.3 + 6.3
* 5.0 + 3
* 3 + 7

66)How to compare two objects and check whether they have same memory locations?

* is operator
* in operator
* \*\*
* Bitwise operators

|  |
| --- |
| 67)What is the output of the following code?  x **=** 5.2  **if** (type(x) **is** **not** int):  **print**("true")  **else**:      print("false") |

|  |
| --- |
| 68)What is the output of the following code?  x **=** 5.2  **if** (type(x) **is** **not** int):  **print**("true")  **else**:  print("false") |
| 69)What is the output of the following code?  x **=** 24  y **=** 20  list **=** [10, 20, 30, 40, 50 ];  **if** ( x **not** **in** list ):  print("x is NOT present in given list")  **else**:  print("x is  present in given list")  **if** ( y **in** list ):  **print**("y is present in given list")  **else**: | |
| 70)What is the output of the following code?  x **=** 24  y **=** 20  list **=** [10, 20, 30, 40, 50 ]  **if** ( x **not** **in** list ):  print("x is NOT present in given list")  **else**:  print("x is  present in given list")  **if** ( y **in** list ):  **print**("y is present in given list")  **else**:  **print**("y is NOT present in given list") | |

71)Show the output of following code:

x = 5

if (type(x) is int):

print("true")

else:

print("false")

72)Which python operator means 'less than or equal to'?

73)What is the value of the expression 100 / 25?

74)What is the output of the following code :print 9**//**2

75)Which is the correct operator for power(x^y)?

76)Which one of these is floor division?

77)What is the answer of this expression, 22 % 3 is?

x = 4.5

y = 2

print(x//y)

78) What is the output of following expression?

x = 5

print(x > 3 and x < 10)

79)What is the output of following expression?

x=10

print(x > 3 and x < 9)

80)What is the output of following expression?

x = 8

print(x > 3 or x < 20)

81)What is the output of following expression?

x = 14

print(x > 10 or x < 3)

answer choices

82)What is the output of following expression?

x = 5

print(not(x > 6 or x < 3 ))

83)What is the output of following expression?

x = 5

y = 3

print(x == y)

84)What is the output of following expression?

x = "5"

y = 5

print(x == y)

85)What is the output of following expression?

x = 5

y = 3

print(x != y)

86)Write the output of the given Python code :

a = 0

a+ =2

print (a)

87)Write the output of the given Python code :

1)print (3 + 4)\*\*3

2)print (3 – 4)\*8

3)print (3 \* 4)%0

4)print (3 % 2)

5)print (3\*\*4) #3 to the fourth power

6)print (3 // 4) #floor division

88)Write the output of the given Python code :

a = 20

if a > = 22:

print(“if”)

elif a >= 21:

print(“elif”)

89)What is the output of following code?

a **=** 12

b **=** 26

c **=** 4

**if** a > b **and** a > c:

**print**("Number a is larger")

**if** b > a **and** b > c:

print("Number b is larger")

**if** c > a **and** c > b:

**print**("Number c is larger")

90)What is the output of the following code?

a = 12

b = 26

c = 4

if a > b and a > c:

print("Number a is larger")

if b > a and b > c:

print("Number b is larger")

if c > a and c > b:

print("Number c is larger")

91)What is the output of the following code?

a = 10

if not a == 10:

print ("a not equals 10")

else:

print("a equals 10")

92)(4%2-3+4\*\*3+2-1+4%2//4)

93)3+2\*(33//2)%5\*2+2

94)5 not (2 and 6)

95)4.2 or 2 or 2

96)3.2//3//5+6%3+4//2 and 1

97) not( 8 or 3 and 4\*3)or 6)

98)((3+2//4-(3\*\*3) and 4)or 6)

99)(not 1) and (not 2) and (not 3)

100)not (((( 2 and 2) and 3) and 4) or 5)

If-else

* Write a python program to find the maximum between two numbers.
* Write a python program to find a maximum between three numbers.
* Write a python program to check whether a number is negative, positive or zero.
* Write a python program to check whether a number is divisible by 5 and 11 or not.
* Write a python program to check whether a number is even or odd.
* Write a python program to check whether a year is leap year or not.
* Write a python program to check whether a character is an alphabet or not.
* Write a python program to input any alphabet and check whether it is vowel or consonant.
* Write a python program to input any character and check whether it is alphabet, digit or special character.
* Write a python program to check whether a character is uppercase or lowercase alphabet.
* Write a python program to input week number and print week day.
* Write a python program to input the month number and print the number of days in that month.
* Write a python program to count the total number of notes in a given amount.
* Write a python program to input angles of a triangle and check whether triangle is valid or not.
* Write a python program to input all sides of a triangle and check whether the triangle is valid or not.
* Write a python program to check whether the triangle is equilateral, isosceles or scalene triangle.
* Write a python program to calculate profit or loss.
* Write a python program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:  
  Percentage >= 90% : Grade A  
  Percentage >= 80% : Grade B  
  Percentage >= 70% : Grade C  
  Percentage >= 60% : Grade D  
  Percentage >= 40% : Grade E  
  Percentage < 40% : Grade F
* Write a python program to input basic salary of an employee and calculate its Gross salary according to following:  
  Basic Salary <= 10000 : HRA = 20%, DA = 80%  
  Basic Salary <= 20000 : HRA = 25%, DA = 90%  
  Basic Salary > 20000 : HRA = 30%, DA = 95%
* Write a python program to input electricity unit charges and calculate total electricity bill according to the given condition:  
  For first 50 units Rs. 0.50/unit  
  For next 100 units Rs. 0.75/unit  
  For next 100 units Rs. 1.20/unit  
  For unit above 250 Rs. 1.50/unit  
  An additional surcharge of 20% is added to the bill
* A shop will give a discount of 10% if the cost of the purchased quantity is more than 1000. Ask the user for quantity, Suppose, one unit will cost 100. Judge and print total cost for user.
* 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.
* 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 - A  
  Ask user to enter marks and print the corresponding grade.
* Take the age of 3 people by user and determine oldest and youngest among them.
* A student will not be allowed to sit in an exam if his/her attendance is less than 75%.Take following input from the user. Number of classes held. Number of classes attended. And print, percentage of class attended. Is the student is allowed to sit in the exam or not.
* Name the keyword which helps in writing code involves condition.
* Write the syntax of simple if statement.
* Is there any limit of statement that can appear under an if block.
* Write a program to check whether a person is eligible for voting or not. (accept age from user)
* Write a program to check whether a number is divisible by 7 or not.
* Write a program to display "Hello" if a number entered by user is a multiple of five , otherwise print "Bye"
* Write a program to calculate the electricity bill (accept number of unit from user) according to the following criteria :

Unit Price   
First 100 units no charge  
Next 100 units Rs 5 per unit  
After 200 units Rs 10 per unit  
(For example if input unit is 350 than total bill amount is Rs2000)

* Write a program to display the last digit of a number.
* Write a program to check whether the last digit of a number( entered by user ) is divisible by 3 or not.
* Write a program to accept the cost price of a bike and display the road tax to be paid according to the following criteria :
* Cost price (in Rs) Tax
* > 100000 15 %
* > 50000 and <= 100000 10%
* <= 50000 5%
* Write the logical expression for the following: A is greater than B and C is greater than D
* Accept any city from the user and display the monument of that city.  
   City Monument  
   Delhi Red Fort  
   Agra Taj Mahal  
   Jaipur Jal Mahal
* Write a program to check whether a person is a senior citizen or not.
* Write a program to find the lowest number out of two numbers excepted from the user.
* Write a program to check whether a number entered is a three digit number or not.
* Accept the temperature in degree Celsius of water and check whether it is boiling or not (boiling point of water in 100 oC.
* Write a program to accept two numbers and mathematical operators and perform operation accordingly.  
  Like:  
  Enter First Number: 7  
  Enter Second Number : 9  
  Enter operator : +  
  Your Answer is : 16
* Accept the age, sex (‘M’, ‘F’), number of days and display the wages accordingly  
    
  If age does not fall in any range then display the following message: “Enter appropriate age”

|  |  |  |
| --- | --- | --- |
| Age | **Sex** | **Wage/day** |
| **>=18 and <30** | **M** | **700** |
|  | **F** | **750** |
| **>=30 and <=40** | **M** | **800** |
|  | **F** | **850** |

* Accept three numbers from the user and display the second largest number.
* Accept the number of days from the user and calculate the charge for library according to following :  
  First five days : Rs 2/day.  
  Six to ten days : Rs 3/day.  
  Ten to 15 days : Rs 4/day  
  After 15 days : Rs 5/day
* Write a Python program to check a string represent an integer or not
* 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

* Write a Python program to find the median of three values. Go to the editor
* 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 the 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

* 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

* Write a Python program to calculate the length of a string.
* Write a Python program to add 'ing' at the end of a given string (length should be at least 3). If the given string already ends with 'ing' then add 'ly' instead. If the string length of the given string is less than 3, leave it unchanged. Go to the editor
* Sample String : 'abc'
* Expected Result : 'abcing'
* Sample String : 'string'
* Expected Result : 'stringly'
* Write a Python program to change a given string to a new string where the first and last chars have been exchanged.
* Write a Python program to display the current date and time.

*Sample Output :*

Current date and time

2014-07-05 14:34:14

58 .Write a Python program which accepts the radius of a circle from the user and computes the area.

*Sample Output :*

r = 1.1

Area = 3.8013271108436504

59. Write a Python program which accepts the user's first and last name and print them in reverse order with a space between them .  
Input1: kumar

Input 2:nayak

Output: nayak kumar

60. Write a Python program to accept a filename from the user and print the extension of that.

Sample filename : abc.java

Output : java

61.Write a Python program to test whether a number is within 100 of 1000 or 2000

62.Write a Python program to get a new string from a given string where "is" has been added to the front. If the given string already begins with "is" then return the string unchanged.  
63. Take 2 inputs and add them if the result is odd print result odd hain, and if it is not print odd nahi hain.  
64. Ask a input whether it is raining or not if it is raining then say baarish ho rahi hain, otherwise tu bahar jaake khel le.  
65. Ask a user to tell the speed of his vehicle, if speed is more than 70kmph, ask him to pay that that much speed multiplied by 50rs. Like if his speed 100kmph, you need to ask him the fine(100-70)\*50=? This is the fine amount he needs to pay, if his speed is not more 70, say him stay home, stay safe.  
66. The given number is of one digited or two digited or three digited or more than three digited.  
67.The entered number is smallest 4 digit number or not.

68.The given character is an uppercase letter or lowercase letter or a digit or a special character.  
69.Whether the triangle will be an obtuse-angle, or a right-angle or an acute-angle triangle.  
70. 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).

````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````````Loops

1. Write a program to print the following using while loop

Puja Na. First 10 Even numbers

b. First 10 Odd numbers

c. First 10 Natural numbers

d. First 10 Whole numbers

2. Write a program to print first 10 integers and their squares like

1 1

2 4

3 9

………………...and so on

3. Write while loop statement to print the following series:

10, 20, 30 … … 300

4. Write a while loop statement to print the following series

105, 98, 91 ………7

5. Write a program to print the first 10 natural numbers in reverse order.

6. Write a program to print the sum of the first 10 Natural numbers.

7. Write a program to print the sum of the first 10 Even numbers.

8. Write a program to print a table of a number entered from the user.

9. Write a program to display all even numbers that fall between two numbers (exclusive both numbers) entered by the user.

10. Write a program to check whether a number is prime or not.

11. Write a program to find the sum of the digits of a number accepted from the user.

12. Write a program to find the product of the digits of a number accepted from the user.

13. Write a program to reverse the number accepted by the user.

14. Write a program to display the number names of the digits of if the number is 231 then output should be Two a number entered by user, for example Three One

15. Write a program to print the Fibonacci series till n terms (Accept n from user)

16. Write a program to print the factorial of a number accepted by the user.

17. Write a program to check whether a number is Armstrong or not. (Armstrong number is a number that is equal to the sum of cubes of its digits, for example : 153 = 1^3 + 5^3 + 3^3.)

18. Write a program to convert binary to decimal.

19. Write a program to add first n terms of the following series using a while loop :

1/1! + 1/2! + 1/3! + …….. + 1/n!

20. Write a program to check whether a number is palindrome or not.

21. Write a python program to sum the sequence:

1 + 1/1! + 1/2! + 1/3! + …….. + 1/n!

22. Write a program to accept 10 numbers from the user and display it’s average.

23. Write a program to accept 10 numbers from the user and display the largest & smallest number.

24. Write a program to display sum of odd numbers and even numbers separately that fall between two numbers accepted from the user.(including both numbers) 100 and 500.

26. Write a program to print the following series till n terms.

2 , 22 , 222 , 2222 \_ \_ \_ \_ \_ n terms

27. Write a program to print the following series till n terms.1 4 9 16 25 \_ \_ \_ \_ \_ n terms

28. Write a program to find the sum of the following series(accept values of x and n from user)

1 + x/1! + x2/2! + ……….xn/n!

x + x2/2 + ……….xn/n

30. Write a program to find the sum of following series

1 + 8 + 27 …………n terms

31. Write a program to find the sum of following series:

1 + 2 + 6 + 24 + 120 . . . . . n terms

32. Write a program to find the sum of following series:

S = 1 + 4 – 9 + 16 – 25 + 36 – … … n terms

33. Write a Program to print all the characters in the string ‘COMPUTER’ using a while loop .

34. Write a program to print only odd numbers from the given list using a while loop . L = [23, 45, 32, 25, 46, 33, 71, 90]

35. Write a program to print all the factors of a number using a while loop .

36. Accept two numbers from the user and display sum of even numbers between them(including both)

37.**Write a program to print the factorial of a number.**

38.Write a Python program to find those numbers which are divisible by 7 and multiple of 5, between 1500 and 2700 (both included).`  
39.Write a Python program to guess a number between 1 to 9  
340.Write a Python program to sum of two given integers. However, if the sum is between 15 to 20 it will return 20.  
41.<https://www.hackerrank.com/challenges/python-loops/problem>  
42. <https://www.hackerrank.com/challenges/js10-loops/problem>

‘;Patterns:

a)  
**1**

1 2

1 2 3

1 2 3 4

1 2 3 4 5

b)

**5 4 3 2 1  
5 4 3 2  
5 4 3  
5 4  
5**

**c)**

**5 5 5 5 5  
4 4 4 4  
3 3 3  
2 2  
1**

**d)**

**1 2 3 4 5  
1 2 3 4  
1 2 3  
1 2  
1**

**e)**

**1  
2 2  
3 3 3  
4 4 4 4  
5 5 5 5 5**

**f)**

**5  
4 4  
3 3 3  
2 2 2 2  
1 1 1 1 1**

**g)**

**5  
5 4  
5 4 3  
5 4 3 2  
5 4 3 2 1**

**h)**

1

1 2

1 2 3

**1 2 3 4**

**1 2 3 4 5**

**i)**

1

2 2

3 3 3

**4 4 4 4**

**5 5 5 5 5**

**j)**

1

2 1

3 2 1

**4 3 2 1**

**5 4 3 2** 1

**k)**

**1**

**2 1**

**3 2 1**

**4 3 2 1**

**5 4 3 2 1**

**l)**

**1**

**2 3**

**4 5 6**

**7 8 9 10**

**m)**

**1**

**2 3 4**

**5 6 7 8 9**

**n)**

**0**

**0 1**

**0 2 4**

**0 3 6 9**

**0 4 8 12 16**

**o)**

**0**

**0 1**

**0 1 4**

**0 1 4 9**

**0 1 4 9 16**

**p)**

**1**

**4 4**

**9 9 9**

**16 16 16 16**

**25 25 25 25 25**

**q)**

**1**

**3 3**

**5 5 5**

**7 7 7 7**

**9 9 9 9 9**

**r)**

**\***

**\* \***

**\* \* \***

**\* \* \* \***

**\* \* \* \* \***

**s)**

**\* \* \* \* \***

**\* \* \* \***

**\* \* \***

**\* \***

**\***

**t)**

**\***

**\* \***

**\* \* \***

**\* \* \* \***

**\* \* \* \* \*   
u)**

**1 2 3 4 5**

**1 2 3 4 5**

**1 2 3 4 5**

**1 2 3 4 5**

**1 2 3 4 5**

**v)**

**1 1 1 1 1**

**2 2 2 2 2**

**3 3 3 3 3**

**4 4 4 4 4**

**5 5 5 5 5**

**w)**

**A**

**A B**

**A B B**

**A B C D**

**A B C D E**

**x)**

**A**

**B B**

**C C C**

**D D D D**

**E E E E E**

**y)**

**\***

**\* \* \***

**\* \* \* \* \***

**\* \* \* \* \* \* \***

z)



**aa)**

**p**

**p y**

**p y t**

**p y t h**

**p y t h o**

**p y t h o n**

**ab)**

**1**

**2 2 2**

**3 3 3 3 3**

**4 4 4 4 4 4 4**

**5 5 5 5 5 5 5 5 5**

**ac)**

**A**

**B C**

**D E F**

**G H I J**

Output based questions on for loop  
  
[1]:

for i in range(5):

print(i)

[2]:

for i in (1,2,3):

print(i)

[3]:

for i in (2,3,4):

print("i")

[4]:

for i in (4,3,2,1,0):

print(i, end=" ")

[5]:

for i in range(10):

if(i%2!=0):

print("Hello",i)

[6]:

for i in range(10,2,-2):

print(i, "Hello")

[7]:

str = "Python Output based Questions"

word=str.split()

for i in word:

[8]:

for i in range(7,10):

print("Python Output based Questions")

print("Python Output based Questions")

[9]:

for i in range(7,-2,-9):

for j in range(i):

print(j)

[10]:

i="9"

for k in i:

print(k)

[11]:

for i in range(1,8):

print(i)

i+=2

[12]:

for i in range(4,7):

i=i+3

print("Hello")

[13]:

for i in range(4,7):

i=i+3

print("Hello",i)

[14]:

i=4

while(i<10):

i=i+3

print(i)

[15]:

for i in range(20):

if i//4==0:

print(i)

[16]:

x=1234

while x%10:

x=x//10

print(x)

[17]:

for i in 1,2,3:

print(i\*i)

[18]:

for i in 2,4,6:

print("H"\*i)

[19]:

p=10

q=20

p=p\*q//4

q=p+q\*\*3

print(p,q)

[20]:

x=2

y=6

x=x+y/2 + y//4

print(x)

[21]:

n=11

for i in range(2,n//2):

if n%i!=0:

print("Python Output based Questions")

break

else:

print("Bye")

[22]:

n=20

for i in range(2,n//4):

if n%i==0:

print("Python Output based Questions")

else:

print("Bye")

[23]:

for i in 123:

print(i)

[24]:

for i in [10,20,30]:

print("Hello",i)

[25]:

x=2

for i in range(x\*\*2,x,-1):

print(x)

]

[26]:

x=10

for i in range(x):

if x==5:

break

print("H")

print(x)

[27]:

x=6

for i in range(x):

if x==5:

break

print("H")

print(x)

[28]:

s=0

for i in range(5):

s=s+i

print(s)

[29]:

for i in range(1,11):

print("%d"%i)

[30]:

print((3>1) and (9<1))

[31]:

print((9>1) or (9<1))

[32]:

while(f<10):

print(f)

f=f\*3

f=0

[33]:

for i in range(5):

for j in range(i):

i=i+j

print(i,end="@")

print(j)

[34]:

i=0

while(i<5):

for j in range(i):

print(j,end="s")

i=i+1

[35]:

num1=7

num2=10

for i in range(5):

num2=num2+10

print(num2)

print(num1)

[36]:

s=0

for i in range(-5,5):

s=s+i

print(s)

[37]:

for i in range(5):

if i%2==0:

pass

else:

print(i)

[38]:

for i in range(5):

if i%2==0:

continue

else:

print(i)

[39]:

for i in range(1,5):

if i%2==0:

break

else:

print(i)

[40]:

for i in range(5):

while(i):

print(i,end=" ")

i=i-1

print()

[41]:

x=5

while(x<15):

print(x\*\*2)

x+=3

[42]:

a=7

b=5

while(a<9):

print(a+b)

a+=1

[43]:

b=5

while(b<9):

print("H")

b+=1

[44]:

b=15

while(b>9):

print("Hello")

b=b-2

[45]:

x=15

while(x==15):

print("Hello")

x=x-3

[46]:

x = "123"

for i in x:

print("a")

[47]:

i=9

while True:

if i%3==0:

break

print("A")

[48]:

a=5

while(a<=10):

print("a")

a+=1

[49]:

i=0

while i<3:

print(i)

i=i+1

else:

print(7)

[50]:

i=0

while i<3:

print(i)

i=i+1

print(0)

[51]:

i=2

for x in range(i):

i+=1

print(i)

print(i)

[52]:

i=2

for x in range(i):

x+=1

print(x)

print(x)

[53]:

i=2

for x in range(i):

x+=1

print(x)

print("x")

[54]:

i=100

while i<57:

print(i)

i+=5

[55]

for i in range(5):

for j in range(i):

print("A",end=" ")

print()

[56]

for i in range(5):

for j in range(i):

print("A",end="a")

print()

[57]

for i in range(5):

print("AS"\*i,"\n")[/showhide]

[58]

for i in range(5):

for j in (i):

print("AS"\*i,"\n")

[59]

print(10\*2//3\*\*2)

[60]

print(12+34-320+23\*\*2)

[61]

a = 7

for i in 7:

print(a)

[62]

a = "AMIT"

for i in range(len(a)):

print(a)

[63]

x = "Welcome to my blog"

j = "i"

while j in x:

print(j)

[64]

print(range (5, 0, -2))

[65]

for i in range(0,2,-1):

print("Hello")

[66]

s1="csworld.com"

s2=""

s3=""

for x in s1:

if(x=="s" or x=="n" or x=="p"):

s2+=x

print(s2,end=" ")

print(s3)

[67]

s1="csworld.com"

c=0

for x in s1:

if(x!="l"):

c=c+1

print(c)

[68]

j=12

c=9

while( j):

if( j>5):

c=c+j-2

j=j-1

else:

break

print(j, c)

print(c)

[69]

L = [13 , 12 , 21 , 16 , 35 , 7, 4]

s = 5

s1 = 3

for i in L:

if (i % 4 == 0):

s = s + i

continue

if (i % 7 == 0):

s1 = s1 + i

print(s , end=" ")

print(s1)

[70]

print('cs' + 'ip' if '234'.isdigit() else 'IT' + '-402')

[71]

def fib(n):

p, q = 0, 1

while(p < n):

yield p

p, q = q, p + q

x = fib(10)

Lists

**List Questions**

* Iterate over both the values in a list and their indices

grocery\_list = ['flour','cheese','carrots']

Output:

#=> 0: flour

#=> 1: cheese

#=> 2: carrots

* Convert Character Matrix to single String;

The original list is: [ ['g', 'f', 'g'], ['i', 's'], ['b', 'e', 's', 't'] ]

The String after join: gfgisbest

* What is the difference between a list and a tuple.
* List product excluding duplicates.

List = [6,1,3,5,6,3,1]

Output: 60

* Count unique values inside a list.

input\_list = [1, 2, 2, 5, 8, 4, 4, 8]

Count = 5 #because [1,2,5,8,4] are unique values.

* <https://www.hackerrank.com/challenges/compare-the-triplets/problem>
* <https://www.hackerrank.com/challenges/simple-array-sum/problem>
* <https://www.hackerrank.com/challenges/birthday-cake-candles/problem>
* Find the First Maximum, Second maximum, Third maximum number from the List.
* <https://www.hackerrank.com/challenges/diagonal-difference/problem>
* For example, if we give 9119 the function should return 811181, as the square of 9 is 81 and square of 1 is 1.
* You will be given a number and you need to return it as a string in Expanded Form. For example:

12 # Should return '10 + 2'

42 # Should return '40 + 2'

70304 # Should return '70000 + 300 + 4'

* Write a Python program to create a list reflecting the modified run-length encoding from

a given list of integers or a given list of characters.

Original list:

[1, 1, 2, 3, 4, 4, 5, 1]

List reflecting the modified run-length encoding from the said list:

[[2, 1], 2, 3, [2, 4], 5, 1]

Original String:

aabcddddadnss

List reflecting the modified run-length encoding from the said string:

[[2, 'a'], 'b', 'c', [4, 'd'], 'a', 'd', 'n', [2, 's']]

* Write a Python program to find the list with maximum and minimum length.

Original list:

[[0], [1, 3], [5, 7], [9, 11], [13, 15, 17]]

List with maximum length of lists:

(3, [13, 15, 17])

List with minimum length of lists:

(1, [0])

* Write a Python program to scramble the letters of string in a given list.

Original list:

['Python', 'list', 'exercises', 'practice', 'solution']

After scrambling the letters of the strings of the said list:

['tnPhyo', 'tlis', 'ecrsseiex', 'ccpitear', 'noilt`uos']

* Write a Python program to find the difference between elements (n+1th - nth) of a given list of numeric values.

Original list:

[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

Difference between elements (n+1th - nth) of the said list :

[1, 1, 1, 1, 1, 1, 1, 1, 1]

Original list:

[2, 4, 6, 8]

Difference between elements (n+1th - nth) of the said list :

[2, 2, 2]

* <https://www.codewars.com/kata/5418a1dd6d8216e18a0012b2/train/python>
* Ratiorg got statues of different sizes as a present from CodeMaster for his birthday, each statue having a non-negative integer size. Since he likes to make things perfect, he wants to arrange them from smallest to largest so that each statue will be bigger than the previous one exactly by 1. He may need some additional statues to be able to accomplish that. Help him figure out the minimum number of additional statues needed.

Example:-

For statues = [6, 2, 3, 8], the output should be

makeArrayConsecutive2(statues) = 3.

Ratiorg needs statues of sizes 4, 5 and 7.

* Below we will define an n-interesting polygon. Your task is to find the area of a polygon for a given n.

A 1-interesting polygon is just a square with a side of length 1. An n-interesting polygon is obtained by taking the n - 1-interesting polygon and appending 1-interesting polygons to its rim, side by side. You can see the 1-, 2-, 3- and 4-interesting polygons in the picture below

Example

For n = 2, the output should be

shapeArea(n) = 5;

For n = 3, the output should be

shapeArea(n) = 13.



* Write a function that takes one argument “n” and delete that many elements from the list.

delete\_nth ([1,1,1,1],2) # return [1,1]

delete\_nth ([20,37,20,21],1) # return [20,37,21]

* [Finding the percentage](https://www.hackerrank.com/challenges/finding-the-percentage/problem).
* What is the difference between append and extend.
* What is the difference between “remove” and “pop”?
* Remove duplicates from a list.

List = [1,2,3,1,2,2]

Output: [1,2,3]

* Given a List, extract all elements whose frequency is greater than K.

Input: test\_list = [4, 6, 4, 3, 3, 4, 3, 4, 3, 8], K = 3

Output: [4, 3]

Explanation: Both elements occur 4 times.

Input: test\_list = [4, 6, 4, 3, 3, 4, 3, 4, 6, 6], K = 2

Output: [4, 3, 6]

Explanation: Occur 4, 3, and 3 times respectively.

* Our task is to print the element which occurs 3 consecutive times in a Python list.

Example:

Input: [4, 5, 5, 5, 3, 8]

Output: 5

Input: [1, 1, 1, 64, 23, 64, 22, 22, 22]

Output: 1, 22

* Given 3 digits a, b, and c. The task is to find all the possible combinations from these digits.

Examples:

Input: [1, 2, 3]

Output:

1 2 3

1 3 2

2 1 3

2 3 1

3 1 2

3 2 1

Input: [0, 9, 5]

Output:

0 9 5

0 5 9

9 0 5

9 5 0

5 0 9

5 9 0

* The task is to perform the operation of removing all the occurrences of a given item/element present in a list.

Input :

1 1 2 3 4 5 1 2

1

Output :

2 3 4 5 2

Explanation : The input list is [1, 1, 2, 3, 4, 5, 1, 2] and the item to be removed is 1.

After removing the item, the output list is [2, 3, 4, 5, 2]

Input :

5 6 7 8 9 10

7

Output :

5 6 8 9 10

* Remove empty List from List

The original list is: [5, 6, [], 3, [], [], 9]

List after empty list removal: [5, 6, 3, 9]

* Given a list of numbers, write a Python program to count positive and negative numbers in a List.

Example:

list1 = [2, -7, 5, -64, -14]

Output: pos = 2, neg = 3

Iist2 = [-12, 14, 95, 3]

Output: pos = 3, neg = 1

* Given the start and end of a range, write a Python program to print all negative numbers in a given range.

Example:

Input: start = -4, end = 5

Output: -4, -3, -2, -1

Input: start = -3, end = 4

Output: -3, -2, -1

* Given start and end of a range, write a Python program to print all positive numbers in given range.

Example:

Input: start = -4, end = 5

Output: 0, 1, 2, 3, 4, 5

Input: start = -3, end = 4

Output: 0, 1, 2, 3, 4

* Find the sum of number digits in List.

The original list is : [12, 67, 98, 34]

List Integer Summation : [3, 13, 17, 7]

Explanation: 1+2 = 3, 6+7=13, 9+8=17, 3+4=7

The original list is : [15, 81, 11, 234]

List Integer Summation : [6,9,2,9]

* Write a Python program to remove all the values except integer values from a given array of mixed values.

Original list: [34.67, 12, -94.89, 'Python', 0, 'C#']

After removing all the values except integer values from the said array of mixed values: [12, 0]

* Write a Python program to check if first digit/character of each element in a given list is same or not.

Original list:

[1234, 122, 1984, 19372, 100]

Check if first digit in each element of the said given list is same or not!

True

Original list:

[1234, 922, 1984, 19372, 100]

Check if the first digit in each element of the given list is the same or not!

False

Original list:

['aabc', 'abc', 'ab', 'a']

Check if first character in each element of the said given list is same or not!

True

Original list:

['aabc', 'abc', 'ab', 'ha']

Check if first character in each element of the said given list is same or not!

False

* Write a Python program to join adjacent members of a given list.

Original list:

['1', '2', '3', '4', '5', '6', '7', '8']

Join adjacent members of a given list:

['12', '34', '56', '78']

Original list:

['1', '2', '3']

Join adjacent members of a given list:

['12']

* Write a Python program to pair up the consecutive elements of a given list.

Original lists:

[1, 2, 3, 4, 5, 6]

Pair up the consecutive elements of the said list:

[[1, 2], [2, 3], [3, 4], [4, 5], [5, 6]]

Original lists:

[1, 2, 3, 4, 5]

Pair up the consecutive elements of the said list:

[[1, 2], [2, 3], [3, 4], [4, 5]]

* Write a Python program to check if a given string contains an element, which is present in a list.

The original string and list:

<https://www.w3resource.com/python-exercises/list/>

['.com', '.edu', '.tv']

Check if <https://www.w3resource.com/python-exercises/list/> contains an element, which is present in the list ['.com', '.edu', '.tv']

True

The original string and list: [https://www.w3resource.net](https://www.w3resource.net/)

[https://www.w3resource.net](https://www.w3resource.net/)

['.com', '.edu', '.tv']

Check if [https://www.w3resource.net](https://www.w3resource.net/) contains an element, which is present in the list ['.com', '.edu', '.tv']

False

* Write a Python program to compute the average of nth elements in a given list of lists with different lengths.

Original list:

[[0, 1, 2], [2, 3, 4], [3, 4, 5, 6], [7, 8, 9, 10, 11], [12, 13, 14]]

Average of n-th elements in the said list of lists with different lengths:

[4.8, 5.8, 6.8, 8.0, 11.0]



* Write a Python program to sum two or more lists, the lengths of the lists may be different.

Original list:

[[1, 2, 4], [2, 4, 4], [1, 2]]

Sum said lists with different lengths:

[4, 8, 8]

Original list:

[[1], [2, 4, 4], [1, 2], [4]]

Sum said lists with different lengths:

[8, 6, 4]



* Write a Python program to find the dimension of a given matrix.

Original list:

[[1, 2], [2, 4]]

Dimension of the said matrix:

(2, 2)

Original list:

[[0, 1, 2], [2, 4, 5]]

Dimension of the said matrix:

(2, 3)

Original list:

[[0, 1, 2], [2, 4, 5], [2, 3, 4]]

Dimension of the said matrix:

(3, 3)

* Write a Python program to iterate a given list cyclically on specific index position.

Original list:

['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h']

Iterate the said list cyclically on specific index position 3 :

['d', 'e', 'f', 'g', 'h', 'a', 'b', 'c']

Iterate the said list cyclically on specific index position 5 :

['f', 'g', 'h', 'a', 'b', 'c', 'd', 'e']

* Write a Python program to insert a specified element in a given list after every nth element.

Original list:

[1, 3, 5, 7, 9, 11, 0, 2, 4, 6, 8, 10, 8, 9, 0, 4, 3, 0]

Insert 20 in said list after every 4 th element:

[1, 3, 5, 7, 20, 9, 11, 0, 2, 20, 4, 6, 8, 10, 20, 8, 9, 0, 4, 20, 3, 0]

Original list:

['s', 'd', 'f', 'j', 's', 'a', 'j', 'd', 'f', 'd']

Insert Z in said list after every 3 th element:

['s', 'd', 'f', 'Z', 'j', 's', 'a', 'Z', 'j', 'd', 'f', 'Z', 'd']

* Write a Python program to add a number to each element in a given list of numbers.

Original lists:

[3, 8, 9, 4, 5, 0, 5, 0, 3]

Add 3 to each element in the said list:

[6, 11, 12, 7, 8, 3, 8, 3, 6]

Original lists:

[3.2, 8, 9.9, 4.2, 5, 0.1, 5, 3.11, 0]

Add 0.51 to each element in the said list:

[3.71, 8.51, 10.41, 4.71, 5.51, 0.61, 5.51, 3.62, 0.51]

* Write a Python program to remove the last N number of elements from a given list.

Original lists:

[2, 3, 9, 8, 2, 0, 39, 84, 2, 2, 34, 2, 34, 5, 3, 5]

Remove the last 3 elements from the said list:

[2, 3, 9, 8, 2, 0, 39, 84, 2, 2, 34, 2, 34]

Remove the last 5 elements from the said list:

[2, 3, 9, 8, 2, 0, 39, 84, 2, 2, 34]

Remove the last 1 element from the said list:

[2, 3, 9, 8, 2, 0, 39, 84, 2, 2, 34, 2, 34, 5, 3]

* Write a Python program to concatenate element-wise three given lists.

Original lists:

['0', '1', '2', '3', '4']

['red', 'green', 'black', 'blue', 'white']

['100', '200', '300', '400', '500']

Concatenate element-wise three said lists:

['0red100', '1green200', '2black300', '3blue400', '4white500']

* Write a Python program to convert a given list of strings into list of lists.

Original list of strings:

['Red', 'Maroon', 'Yellow', 'Olive']

Convert the said list of strings into list of lists:

[['R', 'e', 'd'], ['M', 'a', 'r', 'o', 'o', 'n'], ['Y', 'e', 'l', 'l', 'o', 'w'], ['O', 'l', 'i', 'v', 'e']]

* Write a Python program to split a given list into specified sized chunks.

Original list:

[12, 45, 23, 67, 78, 90, 45, 32, 100, 76, 38, 62, 73, 29, 83]

Split the said list into equal size 3

[[12, 45, 23], [67, 78, 90], [45, 32, 100], [76, 38, 62], [73, 29, 83]]

Split the said list into equal size 4

[[12, 45, 23, 67], [78, 90, 45, 32], [100, 76, 38, 62], [73, 29, 83]]

Split the said list into equal size 5

[[12, 45, 23, 67, 78], [90, 45, 32, 100, 76], [38, 62, 73, 29, 83]]

* Write a Python program to find the last occurrence of a specified item in a given list.

Original list:

['s', 'd', 'f', 's', 'd', 'f', 's', 'f', 'k', 'o', 'p', 'i', 'w', 'e', 'k', 'c']

Last occurrence of f in the said list:

7

Last occurrence of c in the said list:

15

Last occurrence of k in the said list:

14

Last occurrence of w in the said list:

12

* Write a Python program to join two given list of lists of same length, element wise.

Original lists:

[[10, 20], [30, 40], [50, 60], [30, 20, 80]]

[[61], [12, 14, 15], [12, 13, 19, 20], [12]]

Join the said two lists element wise:

[[10, 20, 61], [30, 40, 12, 14, 15], [50, 60, 12, 13, 19, 20], [30, 20, 80, 12]]

Original lists:

[['a', 'b'], ['b', 'c', 'd'], ['e', 'f']]

[['p', 'q'], ['p', 's', 't'], ['u', 'v', 'w']]

Join the said two lists element wise:

[['a', 'b', 'p', 'q'], ['b', 'c', 'd', 'p', 's', 't'], ['e', 'f', 'u', 'v', 'w']]

* **Find the Output:**

|  |
| --- |
| geekCodes = [1, 2, 3, 4]  geekCodes.append([5,6,7,8])  print(geekCodes) |

|  |
| --- |
| check1 = ['Learn', 'Quiz', 'Practice', 'Contribute']  check2 = check1  check3 = check1[:]    check2[0] = 'Code'  check3[1] = 'Mcq'    count = 0  for c in (check1, check2, check3):  if c[0] == 'Code':  count += 1  if c[1] == 'Mcq':  count += 10    print (count) |

* list1 = range(100, 110)

print (list1.index(105))

* list1 = [1, 2, 3, 4, 5]

list2 = list1

list2[0] = 0;

print( list1)

|  |
| --- |
| List1 = [1998, 2002]  List2 = [2014, 2016]  print ((List1 + List2)\*2)   * list = [1, 2, 3, None, (1, 2, 3, 4, 5), ['Geeks', 'for', 'Geeks']]   print(len(list))   * print(list( range(4, 30, 2))) * for i in range(4,31):   if i%2 == 0:  print(i, end=' ')   * a=[4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30]   for i in a:  if i%2==0:  print(i, end=' ')   * Index=int(input("num"))   n=0  for x in range (0,Index+1):  n+=x  print(n)   * list1 = [4, 6, 8, 24, 12,2]   max= sorted(list1)  print(max[-1])   * list = []   list\_1 =[]  n = int(input("enter the total numbers inside list.: "))  i = 1  while(i <= n):  num = int(input("enter the numbers you want to insert into list: "))  i +=1  list.append(num)  print(list, " <--the given list by you is here.\n ")    list.sort()  print(list)  print(max(list))   * list=[]   def l(a,b):  for i in range(a,b):  if i%2==0:  c=list.append(i)  return c  v=l(4,30)  print(v)   * numList = []   def PythonList(start, end):  for x in range(start, end):  if x % 2 == 0:  numList.append(x)  return numList  print PythonList(4, 30)  def cal(n):  sum=0  for i in range(1, n, 1):  sum = sum +i  print(sum)  rev = cal(11)   * aList = [4, 6, 8, 24, 12, 2]   aList.sort(reverse=True)  print(aList.pop(0))   * def findDigitsCharsSymbols(inputString):   charCount = 0  digitCount = 0  symbolCount = 0  for char in inputString:  if char.islower() or char.isupper():  charCount+=1  elif char.isnumeric():  digitCount+=1  else:  symbolCount+=1    print("Chars = ", charCount, "Digits = ", digitCount, "Symbol = ", symbolCount)    inputString = "P@#yn26at^&i5ve"  print("total counts of chars, digits,and symbols \n")  findDigitsCharsSymbols(inputString)   * def shift\_first\_last(lst):   x = lst.pop(0)  y = lst.pop()  lst.insert(0, y)  lst.insert(len(lst), x)  return lst  nums = [1,2,3,4,5,6,7]  print("Original list:")  print(nums)  print("Shift last element to first position and first element to last position of the said list:")  print(shift\_first\_last(nums)) |
|  |

Functions

Q1.Write a Python program to count the number of strings where the string length is 2 or more and the first and last characters are the same from a given list of strings.

ist=['abc', 'xyz', 'aba', '1221']

result= 2.

Q2.Write a Python function to find the Max of three numbers.

Q3.Write a Python function to sum all the numbers in a list.

*Sample List* : (8, 2, 3, 0, 7)

*Output* : 20.

Q4.Write a Python program to reverse a string.

*Sample String* : "1234abcd"

*Output* : "dcba4321".

Q5.Write a Python function that takes a list and returns a new list with unique elements of the first list.

*Sample List :* [1,2,3,3,3,3,4,5]

*Unique List :* [1, 2, 3, 4, 5].

Q6.Write a Python program to print the even numbers from a given list.

*Sample List* : [1, 2, 3, 4, 5, 6, 7, 8, 9]

*Expected Result* : [2, 4, 6, 8].

Q7.Write function bmi that calculates body mass index (bmi = weight / height2).

if bmi <= 18.5 return "Underweight"

if bmi <= 25.0 return "Normal"

if bmi <= 30.0 return "Overweight"

if bmi > 30 return "Obese"

Q8.Write a Python function that accepts a string and calculate the number of upper case letters and lower case letters. Go to the editor

Sample String : 'The quick Brow Fox'

Expected Output :

No. of Uppercase characters : 3

No. of Lower case Characters : 12

Q9.Write a Python program to generate and print a list of first and last 5 elements where

the values are square of numbers between 1 and 30 (both included).

Output :-([1, 4, 9, 16, 25], [676, 729, 784, 841, 900]).

Q10.Create a function that takes 2 positive integers in form of a string as an input, and outputs the sum (also as a string):

"4", "5" --> "9"

"34", "5" --> "39"

Notes:

If either input is an empty string, consider it as zero.

Q11.Implement a function named generateRange(min, max, step), which takes three arguments and generates a range of integers from min to max, with the step. The first integer is the minimum value, the second is the maximum of the range and the third is the step. (min < max)

Task

Implement a function named

generate\_range(2, 10, 2) # should return list of [2,4,6,8,10]

generate\_range(1, 10, 3) # should return list of [1,4,7,10]

generate\_range(2, 10, 2) # should return array of [2, 4, 6, 8, 10]

generate\_range(1, 10, 3) # should return array of [1, 4, 7, 10]

Note

min < max

step > 0

the range does not HAVE to include max (depending on the step)

Q12.Numbers ending with zeros are boring.

They might be fun in your world, but not here.

Get rid of them. Only the ending ones.

1450 -> 145

960000 -> 96

1050 -> 105

-1050 -> -105

Q13.Write a function to check if a number is even or not.

Q14.Write a function to check if a number is prime or not.

Q15.Write a function to calculate power of a number raised to other ( ab ) .

Q16.Print multiplication table of 12 using function.

Q17. Write a function to tell user if he/she is able to vote or not.( Consider minimum age of voting to be 18. )

Q18.Which of the following function headers is correct?

A. def f(a = 1, b):

B. def f(a = 1, b, c = 2):

C. def f(a = 1, b = 1, c = 2):

D. def f(a = 1, b = 1, c = 2, d):

Answer :- c

Q19.What is the output of the following code snippet?

def func(x = 1, y = 2): vd

x = x + y

y += 1

print(x, y)

func(y = 2, x = 1)

A. 1 3

B. 2 3

C. The program has a runtime error because x and y are not defined.

D. 3 2

E. 3 3

Answer :- E

Q20.What is the output of the following code snippet?

num = 1

def func():

num = 3

print(num)

func()

print(num)

A. 1 3

B. 3 1

C. The program has a runtime error because x is not defined.

D. 1 1

E. 3 3

Answer :-B

Q21.What is the output of the following code snippet?

num = 1

def func():

num = num + 3

print(num)

func()

print(num)

A. 1 4

B. 4 1

C. The program has a runtime error because the local variable ‘num’ referenced before assignment.

D. 1 1

E. 4 4

Answer :- c

Q22.What is the output of the following code snippet?

num = 1

def func():

global num

num = num + 3

print(num)

func()

print(num)

A. 1 4

B. 4 1

C. The program has a runtime error because the local variable ‘num’ referenced before assignment.

D. 1 1

E. 4 4

Answer :- E

Q23.What is the output of the following code snippet?

def test(x = 1, y = 2):

x = x + y

y += 1

print(x, y)

test()

A. 1 3

B. 3 1

C. The program has a runtime error because x and y are not defined.

D. 1 1

E. 3 3

Answer :- E

Q24.What is the output of the following code snippet?

def test(x = 1, y = 2):

x = x + y

y += 1

print(x, y)

test(2, 1)

A. 1 3

B. 2 3

C. The program has a runtime error because x and y are not defined.

D. 3 2

E. 3 3

Answer :- D

Q25. Given a list of numbers, write a Python program to count positive and negative numbers in a List using function.

Example:

list1 = [2, -7, 5, -64, -14]

Output: pos = 2, neg = 3

Q26. Write a function called **fizz\_buzz** that takes a number.

* If the number is divisible by 3, it should return “Fizz”.
* If it is divisible by 5, it should return “Buzz”.
* If it is divisible by both 3 and 5, it should return “FizzBuzz”.
* Otherwise, it should return the same number.

Q27. Write a function for checking the speed of drivers. This function should have one parameter: speed.

* If speed is less than 70, it should print “Ok”.
* Otherwise, for every 5km above the speed limit (70), it should give the driver one demerit point and print the total number of demerit points. For example, if the speed is 80, it should print: “Points: 2”.
* If the driver gets more than 12 points, the function should print: “License suspended”

Q28. Write a function called **showNumbers** that takes a parameter called **limit.** It should print all the numbers between 0 and limit with a label to identify the even and odd numbers. For example, if the limit is 3, it should print: - 0 even,1 odd, 2 even, 3 odd .

Q29. Write a function that returns the sum of multiples of 3 and 5 between 0 and **limit** (parameter). For example, if limit is 20, it should return the sum of 3, 5, 6, 9, 10, 12, 15, 18, 20.

Q30. Write a function that prints all the prime numbers between 0 and **limit** where limit is a parameter.

Q31. Your goal is to return multiplication table for number that is always an integer from 1 to 10.For example, a multiplication table (string) for number == 5 looks like below:- 1 \* 5 =5   
  
 2 \* 5 =10  
 3 \* 5 =15  
 .  
 .  
 10 \* 5=50.

Q32.Complete the function that takes a non-negative integer n as input, and returns a list of all the powers of 2 with the exponent ranging from 0 to n (inclusive).   
n=0 == >[1] #[2^0]  
n = 1 ==> [1, 2] # [2^0, 2^1]  
n = 2 ==> [1, 2, 4] # [2^0, 2^1, 2^2].

Q33. Write function bmi that calculates body mass index (bmi = weight / height2).  
  
if bmi > 30 return "Obese"  
if bmi <= 18.5 return "Underweight"  
if bmi <= 25.0 return "Normal"  
if bmi <= 30.0 return "Overweight"  
Q34. Write a function which converts the input string to uppercase.

Write a function which converts the input string to uppercase.  
For example:-  
[10, 14, 2, 23, 19] --> 42 (= 23 + 19)  
[99, 2, 2, 23, 19] --> 122 (= 99 + 23)  
Input sequence contains minimum two elements and every element is an integer.

Q35. Kids drink toddy.  
 Teens drink coke.  
 Young adults drink beer.  
 Adults drink whisky.  
 Make a function that receive age, and return what they drink.  
Rules:-  
Children under 14 old.  
Teens under 18 old.  
Young under 21 old.  
Adults have 21 or more.  
Examples: (Input --> Output)  
  
13 --> "drink toddy"  
17 --> "drink coke"  
18 --> "drink beer"  
20 --> "drink beer"  
30 --> "drink whisky".

Q36. I would like to be able to pass an array with two elements to my swapValues function to swap the values. However it appears that the values aren't changing.  
Can you figure out what's wrong here?  
  
Q37. Consider an array/list of sheep where some sheep may be missing from their place. We need a function that counts the number of sheep present in the array (true means present).  
  
For example,  
[True, True, True, False,  
True, True, True, True ,  
True, False, True, False,  
True, False, False, True ,  
True, True, True, True ,  
False, False, True, True]  
  
The correct answer would be 17.Hint: Don't forget to check for bad values like null/undefined.  
  
  
Q38. Your task is to create function is Divided By (or is\_divide\_by) to check if an integer number is divisible by each out of two arguments.  
  
A few cases:  
(-12, 2, -6) -> true  
(-12, 2, -5) -> false  
(45, 1, 6) -> false  
(45, 5, 15) -> true  
(4, 1, 4) -> true  
(15, -5, 3) -> true  
  
  
  
Q39. Your task is to make two functions, max and min (maximum and minimum in PHP and Python, maxi and mini in Julia) that take a(n) array/vector of integers list as input and outputs, respectively, the largest and lowest number in that array/vector.  
#Examples:-  
  
maximun([4,6,2,1,9,63,-134,566]) returns 566  
minimun([-52, 56, 30, 29, -54, 0, -110]) returns -110  
maximun([5]) returns 5.

minimun([42, 54, 65, 87, 0]) returns 0.  
  
  
  
Q40. Write a function For example, if we give 9119 the function should return 811181, as the square of 9 is 81 and square of 1 is 1.  
  
  
Q41. Write a Python program to find the list with maximum and minimum length.  
Original list:[[0], [1, 3], [5, 7], [9, 11], [13, 15, 17]]  
List with maximum length of lists:  
(3, [13, 15, 17])  
List with minimum length of lists:  
(1, [0])  
  
Q42. Find the sum of number digits in List.  
The original list is : [12, 67, 98, 34]  
List Integer Summation : [3, 13, 17, 7]  
Explanation: 1+2 = 3, 6+7=13, 9+8=17, 3+4=7  
The original list is : [15, 81, 11, 234]  
  
  
  
Q43. Make a function given a list [‘a’, 1, ‘2’, 5, ‘b’, ‘q’]. Print the last ‘N’ elements of the given list. ‘N’ is accepted from the user.  
**Sample Input:**  
1  
**Sample Output:**q   
**Sample Input:**  
3  
**Sample Output:**  
5  
b   
q  
  
  
Q44.**Bonus** - Given the same list, print the last ‘N’ elements in reverse order.  
**Sample Input:**  
2  
**Sample Output:**q  
b   
**Sample Input:**  
3  
**Sample Output:**  
q  
b   
5  
  
  
Q45. Draw a flowchart to Take 10 numbers as input and create a list of the numbers from the user and update each element of the list according to below rule  
If it is even, then multiply it by 100  
If it is odd, then multiply it by -1   
**Sample Input:**  
 23  
 42   
 41   
 1  
**Sample Output:** -23   
 4200   
 -41   
 -1  
  
Q46. Draw a flowchart to take a list of **N** numbers from the user, print True if the complete list consists of [*consecutive numbers*](https://www.mathsisfun.com/definitions/consecutive-numbers.html) *with a difference of one*. Print False otherwise.   
  
**Sample Input:**  
1 2 3 4 5 6 7  
**Sample Output:**True  
**Sample Input:**  
45 46 47 48 49 51 52  
**Sample Output:**False  
**Sample Input:**4 5 6 7 8 9 10  
**Sample Output:**True  
  
**Sample Input:**-5 -6 -7 -8  
  
**Sample Output:**False  
**Sample Input:**-3 -2 -1 0 1  
**Sample Output:**True  
  
  
Q47. Draw a flowchart to take a list of 7 numbers from the user, print True if the complete list consists of [*consecutive numbers*](https://www.mathsisfun.com/definitions/consecutive-numbers.html) *with any constant difference between numbers*. Print False otherwise.   
**Sample Input:**2 4 6 8  
**Sample Output:**True  
**Sample Input:**-5 -6 -7 -8  
**Sample Output:**True  
**Sample Input:**1 2 4 6  
**Sample Output:**False  
**Sample Input:**3 6 9 12 16  
**Sample Output:**False  
  
  
Q48. Two numbers are entered through the keyboard. Write a flowchart to find the value of the first number raised to the power of another.  
**Sample Input**3  
4  
**Sample Output**81 *(3x3x3x3)*  
  
**Sample Input**5  
3  
**Sample Output**125 *(5x5x5)***Sample Input**6  
7  
**Sample Output**279936 *(6x6x6x6x6x6x6)  
  
  
Q49.* Write a flowchart which takes an input **N**. Then input **N** numbers. Then for each of the **N** numbers, print “**even**” if the number is even or and “**odd**” if the number is odd.  
**Sample input:**7  
1  
4  
23  
95  
1203  
403  
84  
**Sample output:**Odd  
Even  
Odd  
Odd  
Odd  
Odd  
Even  
  
Q50. Make a split function   
Input :-[“i am anjali”]  
Output :- [‘i’,’am’,’anjali’]

**DICTIONARY**

Q1.Write a Python program to combine two dictionary adding values for common keys.

d1 = {'a': 100, 'b': 200, 'c':300}

d2 = {'a': 300, 'b': 200, 'd':400}

Sample output: Counter({'a': 400, 'b': 400, 'd': 400, 'c': 300})

Q2. Write a Python program to create a dictionary from a string.

Note: Track the count of the letters from the string.

Sample string : 'w3resource'

Output: {'w': 1, '3': 1, 'r': 2, 'e': 2, 's': 1, 'o': 1, 'u': 1, 'c': 1}

Q3.Write a Python script to generate and print a dictionary that contains a number (between 1 and n) in the form (x, x\*x).

Sample input ( n = 5) :

Output : {1: 1, 2: 4, 3: 9, 4: 16, 5: 25}.

Q4. Write a Python script to print a dictionary where the keys are numbers between 1 and 15 (both included) and the values are square of keys.

Simple Output : {1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 12: 144, 13: 169, 14: 196, 15: 225}.

Q5.

Write a Python program to sort (ascending and descending) a dictionary by value.

Original dictionary : {1: 2, 3: 4, 4: 3, 2: 1, 0: 0}

Dictionary in ascending order by value : [(0, 0), (2, 1), (1, 2), (4, 3), (3, 4)]

Dictionary in descending order by value : {3: 4, 4: 3, 1: 2, 2: 1, 0: 0}

Q6.

Write a Python script to add a key to a dictionary.

Sample Dictionary : {0: 10, 1: 20}

Expected Result : {0: 10, 1: 20, 2: 30}

Q7.

Write a Python script to concatenate the following dictionaries to create a new one.

Sample Dictionary :

dic1={1:10, 2:20}

dic2={3:30, 4:40}

dic3={5:50,6:60}

Expected Result : {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

Q8.

Write a Python program to check whether a given key already exists in a dictionary.

Q9.Write a Python program to iterate over dictionaries using for loops.

Q10.Write a Python script to print a dictionary where the keys are numbers between 1 and 15 (both included) and the values are square of keys.

Sample Dictionary

{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 12: 144, 13: 169, 14: 196, 15: 225}

Q11.Write a Python script to merge two Python dictionaries

Q12.Write a Python program to iterate over dictionaries using for loops

Q13.Write a Python program to sum all the items in a dictionary.

Q14.Write a Python program to multiply all the items in a dictionary.

Q15.Write a Python program to remove a key from a dictionary.

Q16.Write a Python program to map two lists into a dictionary.

Q17.Write a Python program to sort a dictionary by key.

Q18.Write a Python program to get the maximum and minimum value in a dictionary.

Q19.

Write a Python program to remove duplicates from Dictionary.

student\_data = {'id1':

{'name': ['Sara'],

'class': ['V'],

'subject\_integration': ['english, math, science']

},

'id2':

{'name': ['David'],

'class': ['V'],

'subject\_integration': ['english, math, science']

},

'id3':

{'name': ['Sara'],

'class': ['V'],

'subject\_integration': ['english, math, science']

},

'id4':

{'name': ['Surya'],

'class': ['V'],

'subject\_integration': ['english, math, science']

},

}

Sample output:

{'id2': {'subject\_integration': ['english, math, science'], 'class': ['V'], 'name': ['David']}, 'id4': {'subje

ct\_integration': ['english, math, science'], 'class': ['V'], 'name': ['Surya']}, 'id1': {'subject\_integration'

: ['english, math, science'], 'class': ['V'], 'name': ['Sara']}}

Q20.Write a Python program to check a dictionary is empty or not.

Write a Python program to combine two dictionary adding values for common keys.

d1 = {'a': 100, 'b': 200, 'c':300}

d2 = {'a': 300, 'b': 200, 'd':400}

Sample output: Counter({'a': 400, 'b': 400, 'd': 400, 'c': 300})

Q21.Write a Python program to print all unique values in a dictionary.

Sample Data : [{"V":"S001"}, {"V": "S002"}, {"VI": "S001"}, {"VI": "S005"}, {"VII":"S005"}, {"V":"S009"},{"VIII":"S007"}]

Expected Output : Unique Values: {'S005', 'S002', 'S007', 'S001', 'S009'}

Q22. Write a Python program to create and display all combinations of letters, selecting each letter from a different key in a dictionary. Go to the editor

Sample data : {'1':['a','b'], '2':['c','d']}

Expected Output:

ac

ad

bc

bd

Q23.Write a Python program to find the highest 3 values of corresponding keys in a dictionary.

Q24.

Write a Python program to combine values in python list of dictionaries.

Sample data: [{'item': 'item1', 'amount': 400}, {'item': 'item2', 'amount': 300}, {'item': 'item1', 'amount': 750}]

Expected Output: Counter({'item1': 1150, 'item2': 300})

Q25. Write a Python program to create a dictionary from a string.

Note: Track the count of the letters from the string.

Sample string : 'w3resource'

Expected output: {'w': 1, '3': 1, 'r': 2, 'e': 2, 's': 1, 'o': 1, 'u': 1, 'c': 1}

Q26.

Write a Python program to print a dictionary in table format.

my\_dict = {'C1':[1,2,3],'C2':[5,6,7],'C3':[9,10,11]}

Sample Output:

C1 C2 C3

1 5 9

2 6 10

3 7 11

Q27.Write a Python program to count the values associated with key in a dictionary.

student = [{'id': 1, 'success': True, 'name': 'Lary'},

{'id': 2, 'success': False, 'name': 'Rabi'},

{'id': 3, 'success': True, 'name': 'Alex'}]

Sample input if key is id: then 6

Q28.Write a Python program to convert a list into a nested dictionary of keys.

num\_list = [1, 2, 3, 4]

Sample output:

{1: {2: {3: {4: {}}}}}

Q29.Write a Python program to sort a list alphabetically in a dictionary.

Q30.Write a Python program to remove spaces from dictionary keys.

Original dictionary: {'S 001': ['Math', 'Science'], 'S 002': ['Math', 'English']}

New dictionary: {'S001': ['Math', 'Science'], 'S002': ['Math', 'English']}

Q31.. Write a Python program to get the top three items in a shop. Go to the editor

Sample data: {'item1': 45.50, 'item2':35, 'item3': 41.30, 'item4':55, 'item5': 24}

Expected Output:

item4 55

item1 45.5

item3 41.3

Q32.Write a Python program to get the key, value and item in a dictionary.

dict\_num = {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

Sample Output:

key value count

1 10 1

2 20 2

3 30 3

4 40 4

5 50 5

6 60 6

Q33.Python: Print a dictionary line by line

students = {'Aex':{'class':'V',

'rolld\_id':2},

'Puja':{'class':'V',

'roll\_id':3}}

Sample Output:

Aex

class : V

rolld\_id : 2

Puja

class : V

roll\_id : 3

Q34. c

Q35. Write a Python program to count the number of items in a dictionary value that is a list.

dict = {'Alex': ['subj1', 'subj2', 'subj3'], 'David': ['subj1', 'subj2']}

Sample output: 5

Q36.Write a Python program to match key values in two dictionaries.

Sample dictionary: {'key1': 1, 'key2': 3, 'key3': 2}, {'key1': 1, 'key2': 2}

Expected output: key1: 1 is present in both x and y

Q37.Write a Python program to create a dictionary of keys x, y, and z where each key has as value a list from 11-20, 21-30, and 31-40 respectively. Access the fifth value of each key from the dictionary.

{'x': [11, 12, 13, 14, 15, 16, 17, 18, 19],

'y': [21, 22, 23, 24, 25, 26, 27, 28, 29],

'z': [31, 32, 33, 34, 35, 36, 37, 38, 39]}

15

25

35

x has value [11, 12, 13, 14, 15, 16, 17, 18, 19]

y has value [21, 22, 23, 24, 25, 26, 27, 28, 29]

z has value [31, 32, 33, 34, 35, 36, 37, 38, 39]

Q38.. Write a Python program to drop empty Items from a given Dictionary.

Original Dictionary:

{'c1': 'Red', 'c2': 'Green', 'c3': None}

New Dictionary after dropping empty items:

{'c1': 'Red', 'c2': 'Green'}  
  
Q39.Write a Python program to filter a dictionary based on values.

Original Dictionary:

{'Cierra Vega': 175, 'Alden Cantrell': 180, 'Kierra Gentry': 165, 'Pierre Cox': 190}

Marks greater than 170:

{'Cierra Vega': 175, 'Alden Cantrell': 180, 'Pierre Cox': 190}

Q40. Write a Python program to convert more than one list to nested dictionary.

Original strings:

['S001', 'S002', 'S003', 'S004']

['Adina Park', 'Leyton Marsh', 'Duncan Boyle', 'Saim Richards']

[85, 98, 89, 92]

Nested dictionary:

[{'S001': {'Adina Park': 85}}, {'S002': {'Leyton Marsh': 98}}, {'S003': {'Duncan Boyle': 89}}, {'S004': {'Saim Richards': 92}}]

Q41.Write a Python program to filter the height and width of students, which are stored in a dictionary.

Original Dictionary:

{'Cierra Vega': (6.2, 70), 'Alden Cantrell': (5.9, 65), 'Kierra Gentry': (6.0, 68), 'Pierre Cox': (5.8, 66)}

Height > 6ft and Weight> 70kg:

{'Cierra Vega': (6.2, 70)}

Q42.

Write a Python program to check all values are same in a dictionary. Go to the editor

Original Dictionary:

{'Cierra Vega': 12, 'Alden Cantrell': 12, 'Kierra Gentry': 12, 'Pierre Cox': 12}

Check all are 12 in the dictionary.

True

Check all are 10 in the dictionary.

False

Q43.Write a Python program to create a dictionary grouping a sequence of key-value pairs into a dictionary of lists.

Original list:

[('yellow', 1), ('blue', 2), ('yellow', 3), ('blue', 4), ('red', 1)]

Grouping a sequence of key-value pairs into a dictionary of lists:

{'yellow': [1, 3], 'blue': [2, 4], 'red': [1]}

Q44.Write a Python program to split a given dictionary of lists into list of dictionaries.

Original dictionary of lists:

{'Science': [88, 89, 62, 95], 'Language': [77, 78, 84, 80]}

Split said dictionary of lists into list of dictionaries:

[{'Science': 88, 'Language': 77}, {'Science': 89, 'Language': 78}, {'Science': 62, 'Language': 84}, {'Science': 95, 'Language': 80}]

Q45.

Write a Python program to remove a specified dictionary from a given list.

Original list of dictionary:

[{'id': '#FF0000', 'color': 'Red'}, {'id': '#800000', 'color': 'Maroon'}, {'id': '#FFFF00', 'color': 'Yellow'}, {'id': '#808000', 'color': 'Olive'}]

Remove id #FF0000 from the said list of dictionary:

[{'id': '#800000', 'color': 'Maroon'}, {'id': '#FFFF00', 'color': 'Yellow'}, {'id': '#808000', 'color': 'Olive'}]

Q46.Write a Python program to convert string values of a given dictionary, into integer/float datatypes. Go to the editor

Original list:

[{'x': '10', 'y': '20', 'z': '30'}, {'p': '40', 'q': '50', 'r': '60'}]

String values of a given dictionary, into integer types:

[{'x': 10, 'y': 20, 'z': 30}, {'p': 40, 'q': 50, 'r': 60}]

Original list:

[{'x': '10.12', 'y': '20.23', 'z': '30'}, {'p': '40.00', 'q': '50.19', 'r': '60.99'}]

String values of a given dictionary, into float types:

[{'x': 10.12, 'y': 20.23, 'z': 30.0}, {'p': 40.0, 'q': 50.19, 'r': 60.99}]

Q47.

A Python Dictionary contains List as value. Write a Python program to clear the list values in the said dictionary.

Original Dictionary:

{'C1': [10, 20, 30], 'C2': [20, 30, 40], 'C3': [12, 34]}

Clear the list values in the said dictionary:

{'C1': [], 'C2': [], 'C3': []}

Q48.Write a Python program to find the length of a given dictionary values.

Original Dictionary:

{1: 'red', 2: 'green', 3: 'black', 4: 'white', 5: 'black'}

Length of dictionary values:

{'red': 3, 'green': 5, 'black': 5, 'white': 5}

Original Dictionary:

{'1': 'Austin Little', '2': 'Natasha Howard', '3': 'Alfred Mullins', '4': 'Jamie Rowe'}

Length of dictionary values:

{'Austin Little': 13, 'Natasha Howard': 14, 'Alfred Mullins': 14, 'Jamie Rowe': 10}

Q49.Python: Access dictionary key’s element by index

num = {'physics': 80, 'math': 90, 'chemistry': 86}

physics

math

chemistry

Q50.Write a Python program to convert a given dictionary into a list of lists.

Original Dictionary:

{1: 'red', 2: 'green', 3: 'black', 4: 'white', 5: 'black'}

Convert the said dictionary into a list of lists:

[[1, 'red'], [2, 'green'], [3, 'black'], [4, 'white'], [5, 'black']]

Original Dictionary:

{'1': 'Austin Little', '2': 'Natasha Howard', '3': 'Alfred Mullins', '4': 'Jamie Rowe'}

Convert the said dictionary into a list of lists:

[['1', 'Austin Little'], ['2', 'Natasha Howard'], ['3', 'Alfred Mullins'], ['4', 'Jamie Rowe']]

Q51.Write a Python program to filter even numbers from a given dictionary values.

Original Dictionary:

{'V': [1, 4, 6, 10], 'VI': [1, 4, 12], 'VII': [1, 3, 8]}

Filter even numbers from said dictionary values:

{'V': [4, 6, 10], 'VI': [4, 12], 'VII': [8]}

Original Dictionary:

{'V': [1, 3, 5], 'VI': [1, 5], 'VII': [2, 7, 9]}

Filter even numbers from said dictionary values:

{'V': [], 'VI': [], 'VII': [2]}

Q52**.** Write a Python program to find the specified number of maximum values in a given dictionary.

Original Dictionary:

{'a': 5, 'b': 14, 'c': 32, 'd': 35, 'e': 24, 'f': 100, 'g': 57, 'h': 8, 'i': 100}

1 maximum value(s) in the said dictionary:

['f']

2 maximum value(s) in the said dictionary:

['f', 'i']

5 maximum value(s) in the said dictionary:

['f', 'i', 'g', 'd', 'c']

Q53.

Write a Python program to convert a given list of lists to a dictionary.

Original list of lists:

[[1, 'Jean Castro', 'V'], [2, 'Lula Powell', 'V'], [3, 'Brian Howell', 'VI'], [4, 'Lynne Foster', 'VI'], [5, 'Zachary Simon', 'VII']]

Convert the said list of lists to a dictionary:

{1: ['Jean Castro', 'V'], 2: ['Lula Powell', 'V'], 3: ['Brian Howell', 'VI'], 4: ['Lynne Foster', 'VI'], 5: ['Zachary Simon', 'VII']}  
  
Q54.

Write a Python program to create a key-value list pairings in a given dictionary.

Original dictionary:

{1: ['Jean Castro'], 2: ['Lula Powell'], 3: ['Brian Howell'], 4: ['Lynne Foster'], 5: ['Zachary Simon']}

A key-value list pairings of the said dictionary:

[{1: 'Jean Castro', 2: 'Lula Powell', 3: 'Brian Howell', 4: 'Lynne Foster', 5: 'Zachary Simon'}]