

List, Tuple, Set and Dictionary and Functions

1. Write a program which will find all such numbers which are divisible by 7 but are not a multiple of 5, between 2000 and 3200 (both included). The numbers obtained should be printed in a comma-separated sequence on a single line.
2. With a given integral number n, write a program to generate a dictionary that contains (i, i*i) such that i is an integral number between 1 and n (both included). and then the program should print the dictionary.
Suppose the following input is supplied to the program:
8
Then, the output should be:
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64}

3. Write a program which accepts a sequence of comma-separated numbers from console and generate a list and a tuple which contains every number.
Suppose the following input is supplied to the program:
34,67,55,33,12,98
Then, the output should be:
['34', '67', '55', '33', '12', '98']
('34', '67', '55', '33', '12', '98')

4. With two given lists [1,3,6,78,35,55] and [12,24,35,24,88,120,155], write a program to make a list whose elements are intersection of the above given lists.

Hints:

Use set() and "&=" to do set intersection operation.

5. By using list comprehension, please write a program to print the list after removing the value 24 in [12,24,35,24,88,120,155]
6. Write a program which accepts a string as input to print "Yes" if the string is "yes" or "YES" or "Yes", otherwise print "No".
7. Define a function which can generate and print a tuple where the value are square of numbers between 1 and 20 (both included).
8. Define a function which can generate a dictionary where the keys are numbers between 1 and 20 (both included) and the values are square of keys. The function should just print the keys only.

Hints:

Use dict[key]=value pattern to put entry into a dictionary.

Use ** operator to get power of a number.

Use range() for loops.

Use keys() to iterate keys in the dictionary. Also we can use item() to get key/value pairs.

9. Write a program to generate and print another tuple whose values are even numbers in the given tuple (1,2,3,4,5,6,7,8,9,10).

Hints:

Use "for" to iterate the tuple Use tuple() to generate a tuple from a list.

10. Write a program which can filter even numbers in a list by using filter function. The list is:
[1,2,3,4,5,6,7,8,9,10].

Hints:

Use filter() to filter some elements in a list. Use lambda to define anonymous functions.

11. Write a program which can map() to make a list whose elements are square of elements in
[1,2,3,4,5,6,7,8,9,10].

Hints: Use map() to generate a list. Use lambda to define anonymous functions.

12. Write a Program to convert temperature from degree Celsius to Kelvin
13. Write a function find(name) in python to display all the names from a list of names which are
starting from alphabet 'p'.
14. Write a program in python which multiply all the numbers in the list by 3.
15. Write a program in python which convert all the odd numbers in the list to even by adding 1.
16. Write a program in python which concatenate all the numbers present in the list.
17. Write a function double(L) in python which take a list as an argument and if an element is
numeric then multiply it by 3 and if it is a string then concatenate that element with itself.
for example

Original List : L = [1, 2, 'amit', 5, 'list']

Output List : L = [3, 6, 'amitamit' , 15 , 'listlist']

18. Print the pattern

```
1
4 4
9 9 9
16 16 16 16
25 25 25 25 25
```

19. Print the pattern

```
A
B B
C C C
D D D D
E E E E E
```

20. Print the pattern

```
1
2 3 4
5 6 7 8 9
```