

```
# Loop(For-iterative)-AssignmentLoop(For-iterative)-Assignment
# 1. Write a program that takes a list of integers and
# removes all elements that appear more than once, using loops and
conditionals.
```

```
# Return the modified list.
```

```
# l=[1,2,3,1,2,3,4,5,1,6,2]
```

```
# un=[]
```

```
# for i in l:
```

```
#     if l.count(i)>=2:
```

```
#         pass
```

```
#     else:
```

```
#         un.append(i)
```

```
# print(un)
```

```
# output:[4, 5, 6]
```

```
# 2. Given a list of tuples, each containing a string and a number,
# write a program to filter out the tuples where the number is less than 10,
# using a for loop and conditional statements.
```

```
# l=['123',23,456,'67',788,0,1,2,3,90,12,8,'7']
```

```
# for i in l:
```

```
#     if int(i)<10:
```

```
#         print(i)
```

```
# output:=
```

```
# 0
```

```
# 1
```

```
# 2
```

```
# 3
```

```
# 8
```

```
# 7
```

3. Write a program that takes a set of numbers and
prints the sum of all numbers that are divisible by 3 but not 5. Use a loop and
conditional logic to solve this.

```
# l=[3,6,9,5,10,15,12,10,4,8,51]
```

```
# sum=0
```

```
# for i in l:
```

```
#     if(i%3==0 and i%5!=0):
```

```
#         sum+=i
```

```
# print(sum)
```

output:81

4. Given a dictionary where the keys are names and the values are ages,
write a program to print the names of people who are over 18, using a loop and
a conditional check.

```
# d={'lava':24,'sama':34,'john':10,'smita':18}
```

```
# for k,v in d.items():
```

```
#     if(v>18):
```

```
#         print(k,v)
```

output:

lava 24

sama 34

5. Create a program that iterates over a list of strings
and finds the longest string, using a loop and conditional checks.

```
# l=['lavanya','i','am','my','role','datascience']
```

```
# max=""
```

```
# for i in range(len(l)):
```

```
#     if len(l[i])>=len(max):
```

```
#         max=l[i]
```

```
# print(max)
```

output:

datascience

6. Write code that iterates through a set of integers and
adds 2 to each element if it's even, and subtracts 2 if it's odd. Return the
resulting set.

```
# l=[1,2,3,4,10,20,30,5,7,9,13,12]
```

```
# l2=[]
```

```
# print(l)
```

```
# for i in range(len(l)):
```

```
#     if l[i]%2==0:
```

```
#         l[i]=l[i]+2
```

```
#     else:
```

```
#         l[i]=l[i]-2
```

```
# print(l)
```

```
# output:
```

```
# [1, 2, 3, 4, 10, 20, 30, 5, 7, 9, 13, 12]
```

```
# [4, 4, 6, 6, 12, 22, 32, 8, 10, 12, 16, 14]
```

7. Given a list of mixed types (integers, floats, and strings),
write a program to separate the numbers (integers and floats) into one list
and the strings into another list using a loop and conditionals.

```
# l=[True,1,0,12,'lava',34,9.67,'lotana','c']
```

```
# int_l=[]
```

```
# string_l=[]
```

```
# for i in l:
```

```
#     if(type(i)==int) or (type(i)==float):
```

```
#         int_l.append(i)
```

```
#     elif(type(i)==str):
```

```
#         string_l.append(i)
```

```
# print(int_l)
```

```
# print(string_l)
```

```
# output:-
```

```
# [1, 2, 3, 4, 10, 20, 30, 5, 7, 9, 13, 12]
```

```
# ['lava', 'lotana', 'c']
```

```
# 8. Write a program that iterates through a list of dictionaries
# (each representing a person with a name and age) and
# prints the names of people older than 30, using a for loop and a conditional.
# d={'lava':24,'sama':34,'john':10,'smita':38}
```

```
# for k,v in d.items():
#     if(v>30):
#         print(k,v)
```

```
# output:-
```

```
# sama 34
```

```
# smita 38
```

```
# 9. Create a program that checks if a given number is both in a set
# and in a dictionary's keys, printing a corresponding message.
# Use both a conditional and a loop to achieve this.
```

```
# n=3
```

```
# s={1,2,3,4,5,6,10}
```

```
# d={1:23,2:34,4:67,3:78}
```

```
# if n in s and n in d:
```

```
#     print("True")
```

```
# else:
```

```
#     print("false")
```

```
# output:True
```

```
# 10. Given a tuple of tuples, where each inner tuple contains two integers,
# write a program to find the sum of all second elements in each tuple using a
loop and conditional checks.
```

```
# t=((1,2),(3,4),(5,6),(10,100))
```

```
# sum=0
```

```
# for i in t:
```

```
#     sum+=i[1]
```

```
# print(sum)
```

```
# output:112
```

```
# 11. Write a program to merge two lists,  
# but only include elements that appear in both lists (set intersection).  
# Use loops, sets, and conditionals.
```

```
# l=[10,20,30,40,60]  
# l2=[10,20,50,30,60]  
# s=set()  
# for i in l2:  
#     if i in l:  
#         s.add(i)  
# print(s)
```

```
# output:{10, 20, 30, 60}
```

```
# 12. Write a program that takes a dictionary and  
# finds the keys that have a value greater than 100, using a loop and conditionals.
```

```
# d={1:100,2:400,3:3,4:45,5:130,6:9000}
```

```
# for k,v in d.items():  
#     if(v>100):  
#         print(k)
```

```
# output:-
```

```
# 2
```

```
# 5
```

```
# 6
```

```
# 13. Using a set, create a program that removes all elements from the set  
# that appear in a given list, using loops and conditionals.
```

```
# l=[10,20,30,40,1,2,34,67]  
# s={2,3,4,10,40,6}
```

```
# for i in l:  
#     if i in s:  
#         l.remove(i)  
# print(l)
```

```
# output:-[20, 30, 1, 34, 67]
```

14. Write a program that iterates over a list of numbers and
finds the largest number that is not divisible by 2 or 3, using a loop
and conditional statements.

```
# l=[2,4,8,15,18,16,12,40,23,34,89,94]
```

```
# l2=[]
```

```
# for i in l:
```

```
#     if i%2!=0 and i%3!=0:
```

```
#         l2.append(i)
```

```
# print(l2)
```

```
# print(max(l2))
```

```
# output:[23, 89]
```

```
# 89
```

15. Given a list of tuples, each containing a string and a number,
write a program that filters out the tuples where the string starts with a vowel
and the number is even. Use loops and conditionals.

```
# l=[('abc',2),('lava',24),('okay',3),('opra',12)]
```

```
# for i in l:
```

```
#     if (i[0][0] in 'ioeua') and i[1]%2==0:
```

```
#         print(i)
```

```
# output:
```

```
# ('abc', 2)
```

```
# ('opra', 12)
```

16. Create a program that iterates through a list of dictionaries,
where each dictionary contains a person's name and age.
The program should print out the names of all people whose age is between 18
and 30,

using a loop and a conditional.

```
# d={'lava':24,'sama':34,'john':10,'smiya':20,'samarth':9}
```

```
# for k,v in d.items():
```

```
#     if(v<30 and v>18):
```

```
#         print(k,v)
```

```
# output:
```

```
# lava 24
# smita 20
```

```
# 17. Given a set and a dictionary,
# write a program that finds the common elements between the set and the
# dictionary's keys
# and returns them as a set, using loops and conditionals.
```

```
# d={1:23,2:34,4:67,3:78}
```

```
# s={1,2,3,6}
```

```
# s2=set()
```

```
# for i in s:
```

```
#     if i in d:
```

```
#         s2.add(i)
```

```
# print(s2)
```

```
# output:-
```

```
# {1, 2, 3}
```

```
# 18. Write a program to check if a tuple is a subset of another tuple,
# using a loop and a conditional check.
```

```
# t=(1,2,3,45,5)
```

```
# t2=(1,45)
```

```
# f=True
```

```
# for i in t2:
```

```
#     if i not in t:
```

```
#         f=False
```

```
#         break
```

```
# print(f)
```

```
# output:=True
```

```
# 19. Create a program that takes a list of numbers and
# prints all the numbers greater than 50, using a while loop and a conditional
# check.
```

```
# l=[200,230,20,1,503,12,23,45,1,2]
```

```
# i=0
```

```
# while(i<len(l)):  
#     if(l[i]>50):  
#         print(l[i])  
#         i+=1
```

```
# output:200  
# 230  
# 503
```

```
# 20. Given a dictionary of items and their prices,  
# write a program to check which items have a price greater than 20, and  
# return a list of those items using a loop and conditionals.
```

```
# d={'T-shirt':200,'cloth':20,'Cup':50,'laptop':10}
```

```
# l=[]
```

```
# for i in d.values():
```

```
#     if i>20:
```

```
#         l.append(i)
```

```
# print(l)
```

```
# output:[200,50]
```