LAB-2

DS IN PYTHON

LIST

1.> print element after removing even number

```
#print element after removing even number
n=int(input("ENTER n: "))
list =[]
result=[]
for i in range(n):
    num = int(input("enter  element :"))
    list.append(num)
print(list)

for i in list:
    if i % 2 !=0:
        result.append(i)
print(result)
```

```
ENTER n:  5
enter  element : 1
enter  element : 2
enter  element : 3
enter  element : 4
enter  element : 5

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

2.> Program to remove duplicate elements from the list

```
n=int(input("ENTER n: "))
list =[]
result=[]
for i in range(n):
```

```
    num = int(input("enter  element :"))
    list.append(num)

print(list)

for i in list:
    if i  not in result:
        result.append(i)

print("list after removing dups = ")
print(result)
```

```
ENTER n:  8
enter  element : 1
enter  element : 2
enter  element : 3
enter  element : 2
enter  element : 3
enter  element : 1
enter  element : 5
enter  element : 7

[1, 2, 3, 2, 3, 1, 5, 7]
list after removing dups =
[1, 2, 3, 5, 7]
```

3.> Create three lists of numbers, their squares and cubes

```
n=int(input("ENTER n: "))
list =[]
square=[]
cube=[]
for i in range(n):
    num = int(input("enter  element :"))
    list.append(num)



for i in list:
    square.append(i**2)
for i in list:
    cube.append(i**3)
```

```
print("list=",list)
print("squared list=",square)
print("cubed list=",cube)
```

```
ENTER n:  5
enter  element : 1
enter  element : 2
enter  element : 3
enter  element : 4
enter  element : 5

list= [1, 2, 3, 4, 5]
squared list= [1, 4, 9, 16, 25]
cubed list= [1, 8, 27, 64, 125]
```

TUPLE

1.> Python program to find the size of a tuple

```
tuple = ('wdewdw', 'iwecwecp',2334, 4,5,21,31,5,2,54.23)
print("Length of tuple = ",len(tuple))
```

```
Length of tuple =  10
```

2.> Python program to find the maximum and minimum elements in a tuple

```
tuple = (2334, 4,5,21,31,5,2,54.23)
print("max element = ",max(tuple))
print("min element = ",min(tuple))
```

```
max element =  2334
min element =  2
```

3.> Python program to add a tuple to list

```
List = [9, 3, 1, 4]
```

```
print("Initially List : " + str(List))


Tuple = (2, 6)
List += Tuple

print("List after Addition : " + str(List))

Initially List : [9, 3, 1, 4]
List after Addition : [9, 3, 1, 4, 2, 6]
```

STRINGS

1.> Python Print EVEN length words

```
s = "Python is a programming language"
words = s.split()

print("str:", s)
print("list converted string:", words)

print("EVEN length words:")
for w in words:
    if len(w) % 2 == 0:
        print(w)


str: Python is a programming language
list converted string: ['Python', 'is', 'a', 'programming',
'language']
EVEN length words:
Python
is
language
```

2.>Python count vowels in a string

```
s = input("Enter a string: ").lower()
vowels = {'a':0, 'e':0, 'i':0, 'o':0, 'u':0}

for ch in s:
    if ch in vowels:
        vowels[ch] += 1
```

```
print("Total vowels:", sum(vowels.values()))
print("Individual count:", vowels)
```

```
Enter a string:  akshat shrivastava

Total vowels: 6
Individual count: {'a': 5, 'e': 0, 'i': 1, 'o': 0, 'u': 0}
```

3.> Pythong program to check if substring is presnt in string or not

```
s = input("Enter main string: ")
sub = input("Enter substring: ")

if sub in s:
    print("Substring is present")
else:
    print("Substring is NOT present")
```

```
Enter main string:  SXACDW
Enter substring:  WD

Substring is NOT present
```

SETS

1.> Remove an Item from a Set if Present

```
my_set = {10, 20, 30, 40}
item = int(input("Enter item to remove: "))

if item in my_set:
    my_set.remove(item)
    print("Item removed")
else:
    print("Item not present")

print("Set:", my_set)
```

```
Enter item to remove:  3

Item not present
Set: {40, 10, 20, 30}
```

2.> Check if a Set is a Superset

```
A = {1, 2, 3, 4, 5}
B = {2, 3}

if A >= B:
    print("A is a superset of B")
else:
    print("A is NOT a superset of B")
```

```
A is a superset of B
```

3.> FIND LENGTH OF SET

```
my_set = {10, 20, 30, 40, 50}
print("Length of set:", len(my_set))
```

```
Length of set: 5
```

DICTIONARY

1.> Python program to create a dictionary from a sequence

```
seq = [(1, 'a'), (2, 'b'), (3, 'c')]

d = dict(seq)
print(d)
```

```
{1: 'a', 2: 'b', 3: 'c'}
```

2.> Python program to create a dictionary with integer keys, and print the keys, values & key-value pairs

```
n = int(input("Enter number of elements: "))
d = {}

for i in range(n):
    key = int(input("Enter key (integer): "))
```

```
    value = input("Enter value: ")
    d[key] = value

print("\nDictionary:", d)

print("\nKeys:")
for k in d.keys():
    print(k)

print("\nValues:")
for v in d.values():
    print(v)

print("\nKey - Value pairs:")
for k, v in d.items():
    print(k, ":", v)
```

```
Enter number of elements:  4
Enter key (integer):  2
Enter value:  3
Enter key (integer):  4
Enter value:  5
Enter key (integer):  54
Enter value:  3
Enter key (integer):  2
Enter value:


Dictionary: {2: '', 4: '5', 54: '3'}

Keys:
2
4
54

Values:

5
3

Key - Value pairs:
2 :
4 : 5
54 : 3
```

3.> Python program to Generate dictionary of numbers and their squares (i, i*i) from 1 to N

```
n = int(input("Enter N: "))

squares = {i: i*i for i in range(1, n+1)}

print(squares)
```

```
Enter N:  5

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