

# LAB#08

## LISTS

**Objective:** Exploring list/arrays in python programming

### EXERCISE:

**A. Point out the errors, if any, in the following Python programs.**

Code 01:

```
Def max_list( list ):  
    max = list[ 0 ]  
    for a is in list:  
        elif a > max:  
            max = a  
    return max  
print(max_list[1, 2, -8, 0])
```

**Error:** The code had errors in Def, is in, elif, and the function call's brackets.

Code 02:

```
motorcycles = {'honda', 'yamaha', 'suzuki'}  
print(motorcycles)  
del motorcycles(0)  
print(motorcycles)
```

**Error:** The second code incorrectly tried to delete from a set using an index, you can not delete an element from a set

Code 03:

```
Def dupe_v1(x):  
    y = []  
    for i in x:  
        if i not in y:  
            y.append(i)  
    return y  
a = [1,2,3,4,3,2,1]  
print a  
print dupe_v1(a)
```

**Error:** The third code had errors in DEF, the list append syntax, and a missing print

**B. What will be the output of the following programs:**

Code 01:

```
list1= [1,2,4,5,6,7,8]  
print("Negative Slicing:",list1[-4:-1])  
x = [1, 2, 3, 4, 5, 6, 7, 8, 9]  
print("Odd number:", x[::2])
```

Output 01:

```
>>> %Run 'Lab 05.py'  
  
Negative Slicing: [5, 6, 7]  
Odd number: [1, 3, 5, 7, 9]
```

Code 02:

```
def multiply_list(elements):  
    t = 1  
    for x in elements:  
        t*= x  
    return t  
print(multiply_list([1,2,9]))
```

Output 02:

```
>>> %Run 'Lab 05.py'  
  
18
```

### Code 03:

```
def add(x,lst=[] ):
    if x not in lst:
        lst.append(x)
    return lst
def main():
    list1 = add(2)
    print(list1)
    list2 = add(3, [11, 12, 13, 14])
    print(list2)
main()
```

### Output 03:

```
>>> %Run 'Lab 05.py'

[2]
[11, 12, 13, 14, 3]
```

## C. Write Python programs for the following:

### Code 01:

```
names = ['Alice', 'Bob', 'Charlie']
for name in names:
    print(name)
```

### Output 01:

```
>>> %Run 'Lab 05.py'

Alice
Bob
Charlie
```

### Code 02:

```
guests = ['Hania', 'Bilal', 'Komal', 'Fahad']
for guest in guests:
    print(f"Inviting {guest} to dinner.")
del guests[1] # Bilal can't make it
guests.insert(1, 'Sana')
for guest in guests:
    print(f"New invite for {guest}.")
```

### Output 02:

```
>> %Run 'Lab 05.py'

Inviting Hania to dinner.
Inviting Bilal to dinner.
Inviting Komal to dinner.
Inviting Fahad to dinner.
```

### Code 03:

```
my_list = [30, 1, 2, 1, 0]

my_list.append(40)
print("After append(40):", my_list)

my_list.remove(1)
print("After remove(1):", my_list)

my_list.pop(1)
print("After pop(1):", my_list)

my_list.pop()
print("After pop():", my_list)

my_list.sort()
print("After sort():", my_list)

my_list.reverse()
print("After reverse():", my_list)
```

### Output 03:

```
>> %Run 'Lab 05.py'

After append(40): [30, 1, 2, 1, 0, 40]
After remove(1): [30, 2, 1, 0, 40]
After pop(1): [30, 1, 0, 40]
After pop(): [30, 1, 0]
After sort(): [0, 1, 30]
After reverse():
```

### Code 04:

```
def printsquare():
    squares = [i**2 for i in range(1, 8)]
    print("Squares:", squares)
printsquare()
```

### Output 04:

```
>> %Run 'Lab 05.py'

Squares: [1, 4, 9, 16, 25, 36, 49]
```