

Algorithms & Data Structures

Lab 6 (Lists and Tuples)

EX1:

```
# This programs creates a list  
# and print it using different methods  
numbers = [5, 10, 15, 20]  
# print the whole list  
print(numbers)  
# print the list by iterating over  
# elements using for loop  
for n in numbers:  
    print(n)  
# print the list by accessing each  
# element's index  
index = 0  
while index < 4:  
    print(numbers[index])  
    index += 1
```

EX2:

```
# Initialize a list using different methods  
numbers = list(range(5))  
print(numbers)  
numbers = list(range(1, 10, 2))  
print(numbers)  
numbers = [0] * 5  
print(numbers)  
numbers = [1, 2, 3] * 3  
print(numbers)
```

EX3:

```
# Initialize and print a list  
# using negative index  
my_list = [10, 20, 30, 40]  
print(my_list[-1], my_list[-2], \  
my_list[-3], my_list[-4])
```

EX4:

```
# Python has a built-in function named len  
# that returns the length of a list  
my_list = [10, 20, 30, 40]  
index = 0  
size = len(my_list)  
# Print the size of the list  
print(size)  
# Print the list  
for index in range (size):  
    print(my_list[index])
```

EX5:

```
# This code find the sum of 5 integer  
# numbers entered by the user  
total = 0  
list1 = ['']*5  
for index in range(5):  
    list1[index] = int(input('Enter a number: '))  
    total = total+list1[index]  
print(list1)  
print('total = ', total)
```

EX6:

```
# You can use the + operator to concatenate  
# two lists.  
list1 = [1, 2, 3, 4]  
list2 = [5, 6, 7, 8]  
list3 = list1 + list2  
print(list3)  
girl_names = ['Joanne', 'Karen', 'Lori']  
girl_names += ['Jenny', 'Kelly']  
print(girl_names)
```