

Python Lab exercises-II

1. Python program to find the area of a triangle whose sides are given

```
import math
a = float(input("Enter the length of side a: "))
b = float(input("Enter the length of side b: "))
c = float(input("Enter the length of side c: "))
s = (a+b+c)/2
area = math.sqrt(s*(s-a)*(s-b)*(s-c))
print("Area of the triangle is: ", area)
```

2. Python program to find the largest number in a list without using built-in functions

```
numbers = [3,8,1,7,2,9,5,4]
big = numbers[0]
position = 0
for i in range(len(numbers)):
    if (numbers[i]>big):
        big = numbers[i]
        position = i
print("The largest element is ",big," which is found at position",position)
```

3. Python program to insert a number to any position in a list

```
numbers = [3,4,1,9,6,2,8]
print(numbers)
x = int(input("Enter the number to be inserted: "))
y = int(input("Enter the position: "))
numbers.insert(y,x)
print(numbers)
```

4. Python program to delete an element from a list by index

```
numbers = [3,4,1,9,6,2,8]
print(numbers)
x = int(input("Enter the position of the element to be deleted: "))
numbers.pop(x)
print(numbers)
```

Strings

5. Check if "NIELIT" is present or not in the following text

```
txt = "NIELIT - National Institute of Electronics and IT!"
if "NIELIT" not in txt:
    print("No, 'NIELIT' is NOT present.")
else:
    print("Yes, 'NIELIT' is present.")
```

Python - List

6. To determine if a specified item is present in a list use the in keyword

```
thislist = ["apple", "banana", "cherry"]
```

```

if "apple" in thislist:
    print("Yes, 'apple' is in the fruits list")
else:
    print("No, 'apple' is not in the fruits list")

```

Python Dictionaries

7. Python program to print all the items in a dictionary

```

phone_book = {
    'Johny' : [ '8592970000', 'johny@xyzmail.com' ],
    'Boby' : [ '7994880000', 'boby@xyzmail.com' ],
    'Tomy' : [ '9749552647' , 'tomy@xyzmail.com' ]
}
for k,v in phone_book.items():
    print(k, ":", v)

```

8. Python program to display the sum of n numbers using a list

```

numbers = []
num = int(input('How many numbers: '))
for n in range(num):
    x = int(input('Enter number '))
    numbers.append(x)
print("Sum of numbers in the given list is :", sum(numbers))

```

Python Functions

9. Python program to print full name of 3 persons by passing information as arguments into functions

```

def my_function(fname):
    print(fname + " Refsnes")

my_function("Emil")
my_function("Tobias")
my_function("Linus")

```

Python Arrays

10. Create an array of car brands names.

```

cars = ["Ford", "Volvo", "BMW"]
car1 = "Ford"
car2 = "Volvo"
car3 = "BMW"
for x in cars:
    print(x)

```

Python Classes and Objects

11. Create a class named Person, use the `__init__()` function to assign values for name and age

```
class Person:
    def __init__(self, name, age):
        self.name = name
        self.age = age

p1 = Person("John", 36)

print(p1.name)
print(p1.age)
```