Exercise 1

Task-1

```
lab1 > task1.py > ...
  1  x = int(input("enter the number"))
  2  for n in range(0, x):
  3      print(f"Value of n before +=1: {n}, and address is {id(n)}")
  4      n += 1
  5      print(f"Value of n before +=1: {n}, and address is {id(n)}")
  6      # print("*" * (n))
  7  for n in range(-x, 0):
  8      print(f"Value of n before +=1: {n}, and address is {id(n)}")
  9      n += 1
 10      print(f"Value of n before +=1: {n}, and address is {id(n)}")
 11      # print("*" * ( - n + 1))
 12
 13  # my implementation but i think the above is better as there is no nested loop
 14  n = int(input("Enter a number: "))
 15
 16  for i in range(0,n+1):
 17      for j in range(0,i):
 18          print("*",end='')
 19      print()
 20
 21  for i in range(0,n+1):
 22      for j in range(0,n-i):
 23          print("*",end='')
 24      print()
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                Code

PS C:\Users\NB\Desktop\LabCIS\DSATsks> python -u "c:\Users\NB\Desktop\LabCIS\DSATsks\lab1\task1.py"
Value of n before +=1: -5, and address is 140726471747832
Value of n before +=1: -4, and address is 140726471747864
Value of n before +=1: -4, and address is 140726471747864
Value of n before +=1: -3, and address is 140726471747896
Value of n before +=1: -3, and address is 140726471747896
Value of n before +=1: -2, and address is 140726471747928
Value of n before +=1: -2, and address is 140726471747928
Value of n before +=1: -1, and address is 140726471747960
Value of n before +=1: -1, and address is 140726471747960
Value of n before +=1: 0, and address is 140726471747992
Enter a number:
```

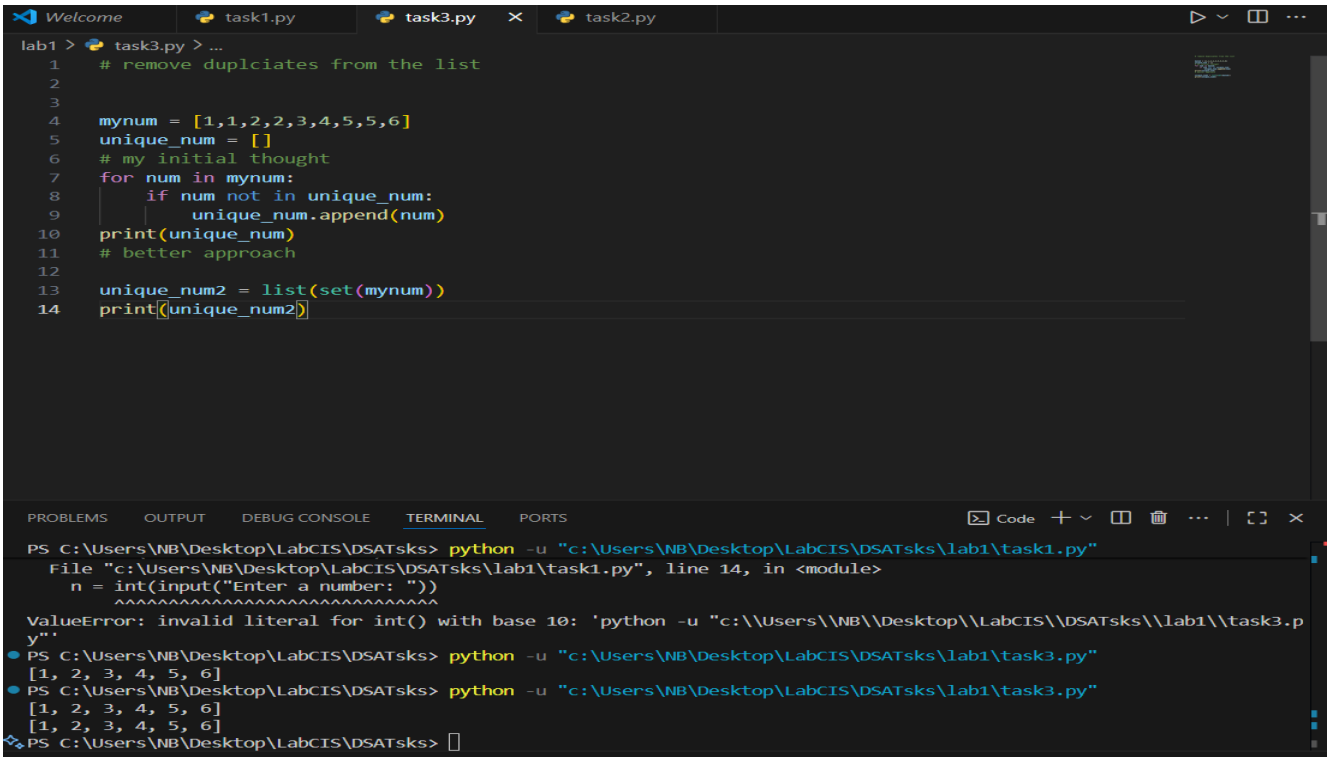
Task-2

```
lab1 > task2.py > ...
  1  dic1 = {1:10,2:20}
  2  dic2= {3:30,4:40}
  3  dic3 = {5:50,6:60}
  4
  5  # remember key value pairings
  6
  7  dic4 = dic1 | dic2 | dic3
  8  print(dic4)
  9
 10  #  or
 11
 12  dic5 = {}
 13  dic5.update(dic1)
 14  dic5.update(dic2)
 15  dic5.update(dic3)
 16  print(dic5)
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                Code

PS C:\Users\NB\Desktop\LabCIS\DSATsks> python -u "c:\Users\NB\Desktop\LabCIS\DSATsks\lab1\task2.py"
{1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}
{1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}
PS C:\Users\NB\Desktop\LabCIS\DSATsks>
```

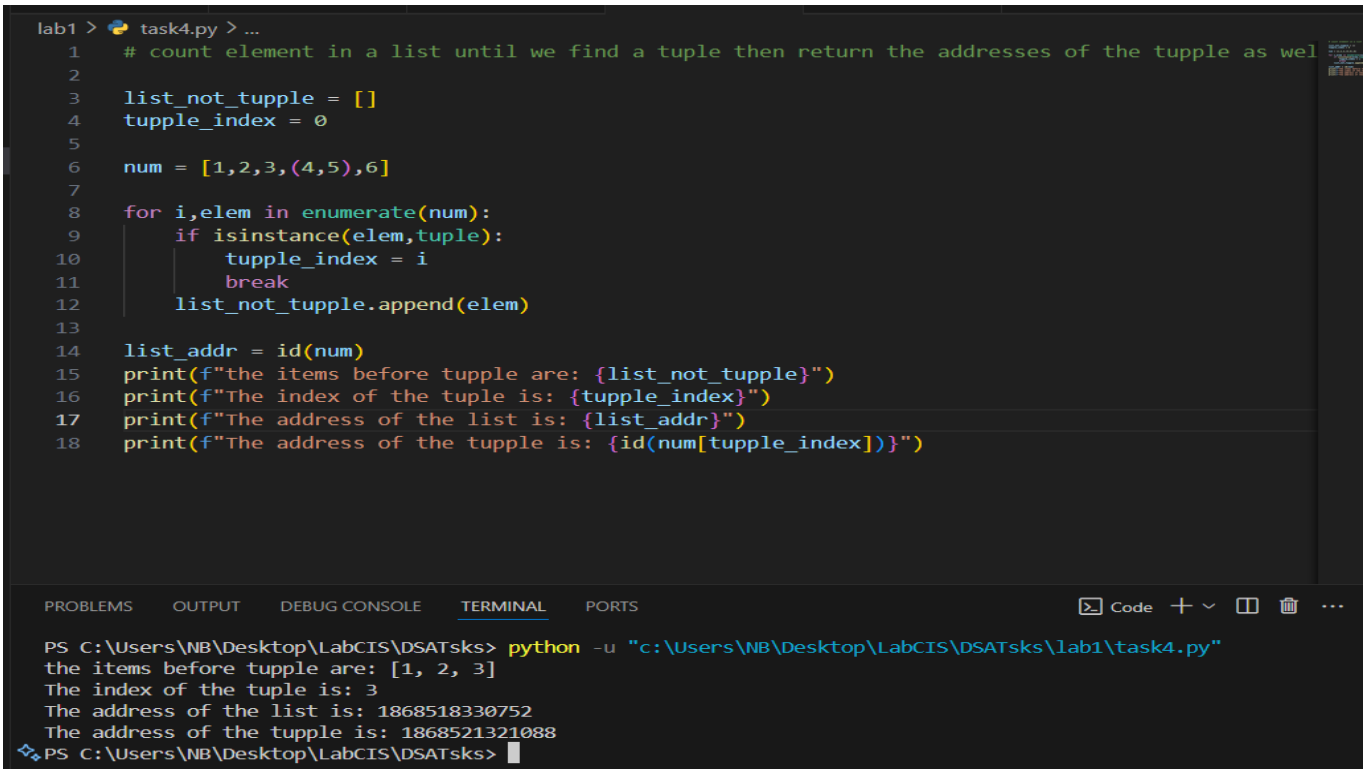
Task-3



```
lab1 > task3.py > ...
  1  # remove duplciates from the list
  2
  3
  4  mynum = [1,1,2,2,3,4,5,5,6]
  5  unique_num = []
  6  # my initial thought
  7  for num in mynum:
  8      if num not in unique_num:
  9          unique_num.append(num)
 10  print(unique_num)
 11  # better approach
 12
 13  unique_num2 = list(set(mynum))
 14  print(unique_num2)
```

```
PS C:\Users\NB\Desktop\LabCIS\DSATsks> python -u "c:\Users\NB\Desktop\LabCIS\DSATsks\lab1\task1.py"
  File "c:\Users\NB\Desktop\LabCIS\DSATsks\lab1\task1.py", line 14, in <module>
    n = int(input("Enter a number: "))
        ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
ValueError: invalid literal for int() with base 10: 'python -u "c:\\Users\\NB\\Desktop\\LabCIS\\DSATsks\\lab1\\task3.p
y"'
PS C:\Users\NB\Desktop\LabCIS\DSATsks> python -u "c:\Users\NB\Desktop\LabCIS\DSATsks\lab1\task3.py"
[1, 2, 3, 4, 5, 6]
PS C:\Users\NB\Desktop\LabCIS\DSATsks> python -u "c:\Users\NB\Desktop\LabCIS\DSATsks\lab1\task3.py"
[1, 2, 3, 4, 5, 6]
[1, 2, 3, 4, 5, 6]
PS C:\Users\NB\Desktop\LabCIS\DSATsks>
```

Task-4



```
lab1 > task4.py > ...
  1  # count element in a list until we find a tuple then return the addresses of the tupple as wel
  2
  3  list_not_tupple = []
  4  tupple_index = 0
  5
  6  num = [1,2,3,(4,5),6]
  7
  8  for i,elem in enumerate(num):
  9      if isinstance(elem,tuple):
 10          tupple_index = i
 11          break
 12      list_not_tupple.append(elem)
 13
 14  list_addr = id(num)
 15  print(f"the items before tupple are: {list_not_tupple}")
 16  print(f"The index of the tuple is: {tupple_index}")
 17  print(f"The address of the list is: {list_addr}")
 18  print(f"The address of the tupple is: {id(num[tupple_index])}")
```

```
PS C:\Users\NB\Desktop\LabCIS\DSATsks> python -u "c:\Users\NB\Desktop\LabCIS\DSATsks\lab1\task4.py"
the items before tupple are: [1, 2, 3]
The index of the tuple is: 3
The address of the list is: 1868518330752
The address of the tupple is: 1868521321088
PS C:\Users\NB\Desktop\LabCIS\DSATsks>
```