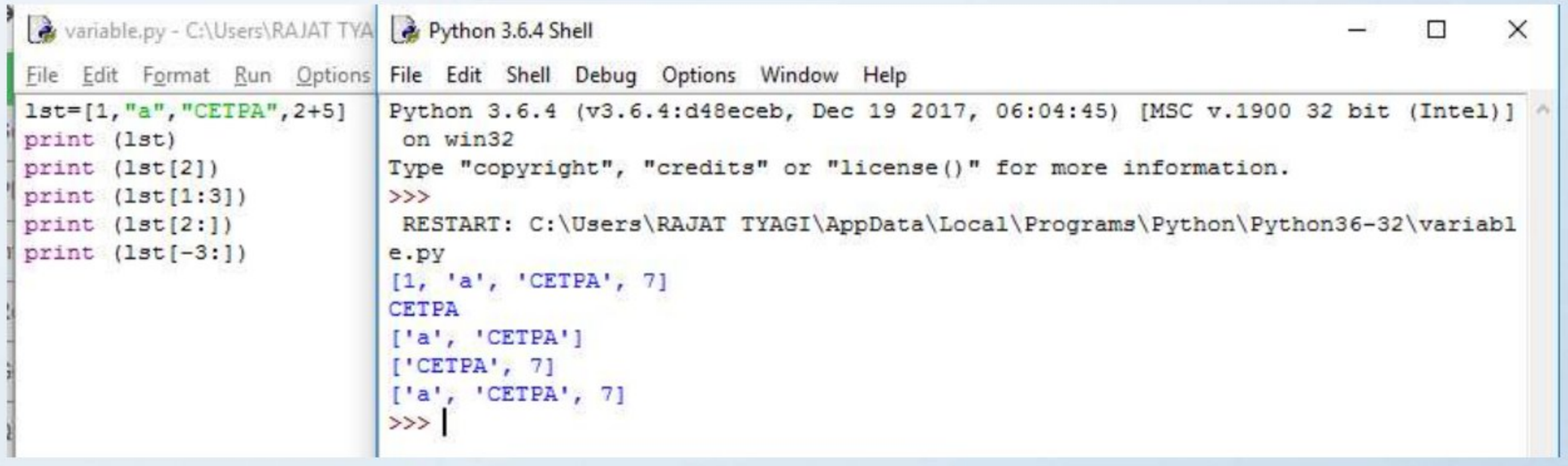
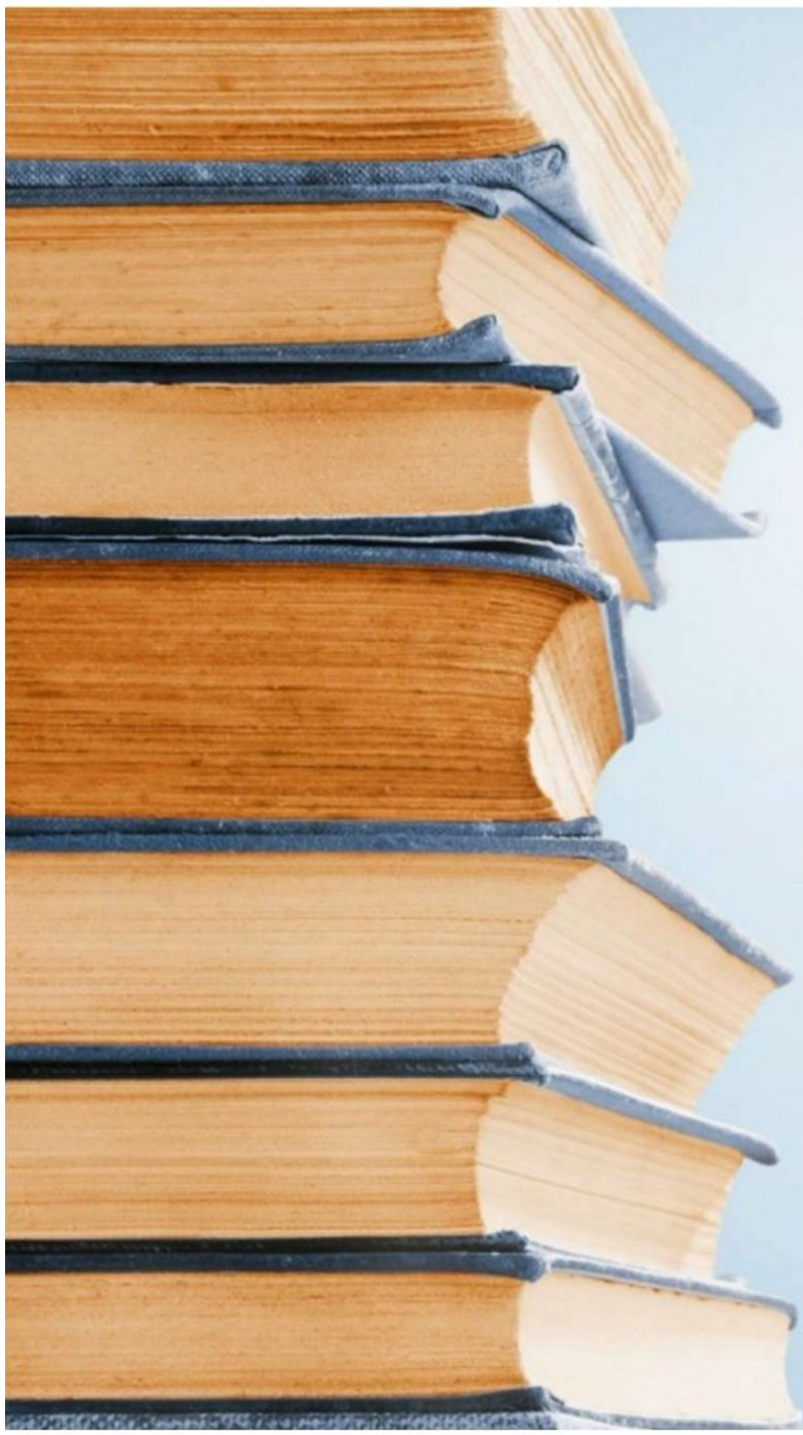
Python Lists

Lists are one of the most powerful tools in python. They are just like the arrays declared in other languages. But the most powerful thing is that list need not be always homogenous. A single list can contain strings, integers, as well as objects. Lists can also be used for implementing stacks and queues.





List

Lists are one of the most powerful tools in python. They are just like the arrays declared in other languages. But the most powerful thing is that list need not be always homogenous.

Manipulation and Operations

*list_manipulation_and_Operation.py - C:\Users\RAJA

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```
x=[34,25,"abc",True];
# Printing
print ( x)

# Indexing
print ( x[0])

# Slicing
print ( x[0::2])

# Reverse Slicing
print ( x[-1::-2])

# Concatenation
a,b=[11,5,7],[3,5,1]
print ( a+b)

# Repeatation
print ( a*3)

# Membership
if 'abc' in x:
    print ( True)
```

*list_manipulation_and_Operation.py - C:\Users\RAJAT

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```
# Add new value
x.append ( 10)
print ( x)

# Add multiple values
x.extend ( [51,23,19,25])
print ( x)

# Add value on a specific index
x.insert ( 1,"Rajat")
print ( x)

# Update a value
x[1]="Ankit"
print ( x)

# Remove a value from list
x.remove ( 25)
print ( x)

# Remove value using index
del x[1],x[4]
print ( x)
```

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```
# Remove value using index slicing with step
lst=[12,'a',True,21,15.24,5e-2,'\u0915',0x12,0o12,0b110]
print ( lst)
del lst[0::+2]
print ( lst)

# Clear a list
lst.clear ()
print ( lst)

# Calculate length of list
print ( len ( x) )

# Maximum digit in list
print ( max ( x) )

# Minimum number in list
print ( min ( x) )

# Sum of digits in a list
print ( sum ( x) )

# Sorting a list
print ( sorted ( x) )
```

Program to get the largest number from a list.

List_find_max_num.py - D:/Documents/Python/List_find_max_num.py (3.6.4)

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```
# program to get the largest number from a list.
lst=[5,1,6,-12,8]
max = lst[ 0 ]
for a in lst:
    if a > max:
        max = a
print ( max)
```

Python 3.6.4 Shell

File Edit Shell Debug Options Window

```
Python 3.6.4 ( v3.6.4:d48ec
Type "copyright", "credits" or
>>>
============= RESTART:
8
>>>
```

Program to count the number of strings where the string length is 2 or more and the first and last character are same from a given list of strings.

List_count_num_of_string.py - D:/Documents/Python/List_count_num_of_string.py (3.6.4)

File Edit Format Run Options Window Help

```
# program to count the number of strings where the s
#and the first and last character are same from a give
lst=["121",525,"abc","dad","SAS"]
ctr = 0
for str1 in lst:
    if type ( str1)  ==int:
        pass
    else:
        if len ( str1)   > 1 and str1[0] == str1[-1]:
            ctr += 1
print ( ctr)
```

Python 3.6.4 Shell

File Edit Shell Debug Options Window Help

```
Python 3.6.4  ( v3.6.4:d48eceb, Dec 19 2
Type "copyright", "credits" or "license ()
>>>
========== RESTART: D:/Documents/F
3
>>>
```