

Navya Battu

Class Id : 8

ICP Id : 14

Objective : The following assignment focus on to make one familiar with python basic topics.

Features :

1. Using Regular Expressions
2. Iterative loops
3. Conditional/Decision making loops
4. Used List and Set functions
5. Operators
6. Python Inbuilt functions

Configurations :

Python 3.6, PyCharm (COMMUNITY 2017.3)

Implementation and Deployment :

Question 1:

Input :

Case 1: navya

Case 2: Navya@123

Output:

```
/Users/navyabattu/venv/Pythonlab1/bin/python /Users/navyabattu/PycharmProjects/Pythonlab1/password.py
Input your password : navya
Not a Valid Password

Process finished with exit code 0
```



```
/Users/navyabattu/venv/Pythonlab1/bin/python /Users/navyabattu/PycharmProjects/Pythonlab1/password.py
Input your password : Navya@123
Valid Password

Process finished with exit code 0
```

Question 2:

Input:

My name is Jacqueline Fernandez Dsouza

Output:

```
sumzero  sumzero  middleword  middleword
/Users/navyabattu/venv/Pythonlab1/bin/python /Users/navyabattu/PycharmProjects/Pythonlab1/middleword.py
Enter the sentence: My name is Jacqueline Fernandez Dsouza
The longest word is Jacqueline
Sentence of reversed words : yM eman si anileuqcaJ zednanreF azuosD
Middle word is : ['is', 'Jacqueline']

Process finished with exit code 0
|
```

Question 3:

Input:

[1, 3, 6, 2, -1, 2, 8, -2, 9]

Output:

```
/Users/navyabattu/venv/Pythonlab1/bin/python /Users/navyabattu/PycharmProjects/Pythonlab1/sumzero.py
Enter in a list: [1, 3, 6, 2, -1, 2, 8, -2, 9 ]
{(-2, -1, 3)}

Process finished with exit code 0
|
```

Question 4:

Input :

```
class_python=['Mounika','Kiran','Praveen','Benson']  
class_webapplication=['Kiran','Benson','Rachana','Suhas']
```

Output :

```
/Users/navyabattu/venv/Pythonlab1/bin/python /Users/navyabattu/PycharmProjects/Pythonlab1/common.py  
Common students in both classes  
['Benson', 'Kiran']  
Unique students in both classes  
['Suhas', 'Rachana', 'Mounika', 'Praveen']  
  
Process finished with exit code 0
```

Implementation and Deployment

Explanation for code : Question 1

```
sumzero.py × common.py × password.py × middleword.py ×
1 import re
2 pw= input("Input your password : ")
3 temp = True
4 while temp:
5     if (len(pw)<6 or len(pw)>16):
6         break
7     elif not re.search("[0-9]",pw):
8         break
9     elif not re.search("[$@!*]",pw):
10        break
11    elif not re.search("[a-z]",pw):
12        break
13    elif not re.search("[A-Z]",pw):
14        break
15    else:
16        print("Valid Password")
17        temp=False
18        break
19
20 if temp:
21     print("Not a Valid Password")
```

1. Importing regular expressions
2. Taking password as input from User
3. Initializing the temp variable for "True"
4. Starting the conditional loop while temp is "True"
5. Checking the string to meet required conditions through Decision statement "if elif."
6. If it did not satisfy one of the any conditions break executes and loop will end and output is given as "Not a Valid Password"
7. If it satisfies all the conditions output will be "Valid Password" and temp variable will be set to "False" loop will end

Explanation for code : Question 3

```
sumzero.py x test.py x common.py x password.py x middleword.py x
1 str_list = [int(x) for x in input("Enter in a list: ").split()]
2 s = sorted(str_list)
3 zeroset = set()
4 for k in range(len(s)):
5     mark = -s[k]
6     i, j = k + 1, len(s) - 1
7     while i < j:
8         sum_two = s[i] + s[j]
9         if sum_two < mark:
10             i += 1
11         elif sum_two > mark:
12             j -= 1
13         else:
14             zeroset.add((s[k], s[i], s[j]))
15             i += 1
16             j -= 1
17 print(zeroset)
```

1. Taking list of numbers from user through input() and stored them in list
2. Sorting the list
3. Initialize a set "zeroset"
4. Starting a loop with a range of length of sorted list
5. A conditional loop inside "for" loop for checking the conditions and adding the output numbers to set "zeroset"
6. Printing the output

Explanation for code : Question 4

```
sumzero.py × test.py × common.py × password.py × middleword.py ×
1 class_python=['Mounika','Kiran','Praveen','Benson']
2 class_webapplication=['Kiran','Benson','Rachana','Suhas']
3 common=list(set(class_python).intersection(set(class_webapplication)))
4 print('Common students in both classes')
5 print(common)
6 total=list(set(class_python).union(set(class_webapplication)))
7 unique=list(set(total).difference(set(common)))
8 print('Unique students in both classes')
9 print(unique)
```

1. Storing the list of string values in list class_python
2. Storing the list of string values in list class_webapplication
3. Storing the common string values with the help of intersection function in set.
4. Print common students
5. Storing the total string values from both lists using union function
6. Removing the common values we got previously from total

7. Printing the unique students

Limitations :

1. Version compatibility
2. Needed too many loops

References :

<https://www.tutorialspoint.com/python/index.htm>

<https://www.geeksforgeeks.org/>

<https://stackoverflow.com>