**Q1.** You are writing code for a company. The requirement of the company is that you create a python function that will check whether the password entered by the user is correct or not. The function should take the password as input and return the string "Valid Password" if the entered password follows the below-given password guidelines else it should return "Invalid Password".

Note: 1. The Password should contain at least two uppercase letters and at least two lowercase letters.

2. The Password should contain at least a number and three special characters.

3. The length of the password should be 10 characters long.

```python
import re
p= input("Input your password=")
x = True
while x:
    if (len(p)==10):
        break
    elif not re.search("[a-z]",p):
        break
    elif not re.search("[0-9]",p):
        break
    elif not re.search("[A-Z]",p):
        break
    elif not re.search("[$#@]",p):
        break
    elif re.search("\s",p):
        break
    else:
        print("Valid Password")
        x=False
        break

if x:
    print("Not a Valid Password")
```
```
Input your passwordVivek@985321
Valid Password
```

## Q2. Solve the below-given questions using at least one of the following:

1. Lambda function

2. Filter function

3. Map function

4. List Comprehension

Check if the string starts with a particular letter

Check if the string is numeric

Sort a list of tuples having fruit names and their quantity. [("mango",99),("orange",80), ("grapes", 1000)-

Find the squares of numbers from 1 to 10

Find the cube root of numbers from 1 to 10

Check if a given number is even

Filter odd numbers from the given list.

[1,2,3,4,5,6,7,8,9,10-

Sort a list of integers into positive and negative integers lists.

[1,2,3,4,5,6,-1,-2,-3,-4,-5,0]

### 1.Check if the string starts with a particular letter using lambda function

```python
starts_with = lambda x: True if x.startswith('P') else False
print(starts_with('Python'))
start_with=lambda y: True if y.startswith('p') else False
print(start_with('javascript'))
```
```
True
False
```

### 2.Check if the string is numeric

```python
x=input("numeric value=")
print(x.isnumeric())
```
```
numeric value=4546434
True
```
```python
numeric = lambda x: print("it is numeric") if x%2==0 or x%3==0  else False
```
```python
numeric(45)
```
```
it is numeric
```

### 3.Sort a list of tuples having fruit names and their quantity. [("mango",99),("orange",80), ("grapes", 1000)-

```python
list=[("mango",99),("orange",80),("grapes",1000)]
print("shorting their names")
list.sort(key=lambda x:x[0])
print(list)
print("shorting their quantity")
list.sort(key=lambda x: x[1])
print(list)
```
```
shorting their names
[('grapes', 1000), ('mango', 99), ('orange', 80)]
shorting their quantity
[('orange', 80), ('mango', 99), ('grapes', 1000)]
```

### 4.Find the square of the number 1-10

```python
x=[1,2,3,4,5,6,7,8,9,10]
```
```python
set(map(lambda y: y**2,x))
```
```
{1, 4, 9, 16, 25, 36, 49, 64, 81, 100}
```

### 5.Find the cube root of numbers from 1 to 10

```python
import numpy as np
```
```python
x=[1,2,3,4,5,6,7,8,9,10]
```
```python
print("cube root of 198",np.cbrt(198))
```
```
cube root of 198 5.8284766832514565
```
```python
for i in range(1,11):
    j=i*1/3
    print(j)
```
```
0.3333333333333333
0.6666666666666666
1.0
1.3333333333333333
1.6666666666666667
2.0
2.3333333333333335
2.6666666666666665
3.0
3.3333333333333335
```

### 5 Check if a given number is even

```python
y=lambda z:"even" if z%2==0 else "odd"
print(y(45))
```
```
odd
```

### 6.Filter odd numbers from the given list. [1,2,3,4,5,6,7,8,9,10]

```python
list= [1,2,3,4,5,6,7,8,9,10]
```
```python
set(filter(lambda x:x%3==0,list))
```
```
{3, 6, 9}
```

### 7.Sort a list of integers into positive and negative integers lists. [1,2,3,4,5,6,-1,-2,-3,-4,-5,0]

```python
list=[1,2,3,4,5,6,-1,-2,-3,-4,-5,0]
```
```python
for i in list:
    x=[]
    if i>=0:
        print("positive num",i)
    else :
        print("negative num",i)
```
```
positive num 1
positive num 2
positive num 3
positive num 4
positive num 5
positive num 6
negative num -1
negative num -2
negative num -3
negative num -4
negative num -5
positive num 0
```