IBM Assignment 1 - Python operations

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Question 1 :

Consider a list (list = []). You can perform the following commands:
insert i e: Insert integer at position .
print: Print the list.
remove e: Delete the first occurrence of integer .
append e: Insert integer at the end of the list.
sort: Sort the list.
pop: Pop the last element from the list.
reverse: Reverse the list.
Initialize your list and read in the value of followed by lines of commands where each command will be of the types listed above. Iterate through each command in order and perform the corresponding operation on your list.

Code:

```
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# creating a list
l = [1, 2, 3, 10, 5, 3]

#user input for commands

opt = int(input("1. printing\n2.
remove\n3.append\n4.sort\n5.pop\n6.reverse\n7.end\n"));
while(opt - 7 != 0):
    #printing the list
```

```
    if(opt == 1) : print(l)
    #removing the first occurence of an element from a list
    if(opt == 2) : l.remove(3)
    #appending an element at the end of the list
    if(opt == 3) : l.append(7)
    #sorting the list
    if(opt == 4) : l.sort()
    #popping the last element from the list
    if(opt == 5) : l.pop();
    #reversing the list
    if(opt == 6) : l.reverse()
    if(opt == 7) : break
    opt = int(input("1. printing\n2.
remove\n3.append\n4.sort\n5.pop\n6.reverse\n7.end\n"));
```

Output:

```
anirudhtn@anirudhtn-ThinkPad-E14:~/Documents/ibm$ python3 assgn1_p1.py
1. printing
2. remove
3.append
4.sort
5.pop
6.reverse
7.end
1
[1, 2, 3, 10, 5, 3]
1. printing
2. remove
3.append
4.sort
5.pop
6.reverse
7.end
2
1. printing
2. remove
3.append
4.sort
5.pop
6.reverse
```

```
7.end
1
[1, 2, 10, 5, 3]
1. printing
2. remove
3.append
4.sort
5.pop
6.reverse
7.end
3
1. printing
2. remove
3.append
4.sort
5.pop
6.reverse
7.end
1
[1, 2, 10, 5, 3, 7]
1. printing
2. remove
3.append
4.sort
5.pop
6.reverse
7.end
4
1. printing
2. remove
3.append
4.sort
5.pop
6.reverse
7.end
1
[1, 2, 3, 5, 7, 10]
1. printing
2. remove
3.append
4.sort
5.pop
6.reverse
```

```
7.end
5
1. printing
2. remove
3.append
4.sort
5.pop
6.reverse
7.end
1
[1, 2, 3, 5, 7]
1. printing
2. remove
3.append
4.sort
5.pop
6.reverse
7.end
6
1. printing
2. remove
3.append
4.sort
5.pop
6.reverse
7.end
1
[7, 5, 3, 2, 1]
1. printing
2. remove
3.append
4.sort
5.pop
6.reverse
7.end
7
```

Question 2:
Write a Calculator program in Python

Code :

```
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# distributed under the License is distributed on an "AS IS" BASIS,
# WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
# See the License for the specific language governing permissions and
# limitations under the License.

opt = input("Enter option : +, -, *, /\n")
num1, num2 = map(int, input("Enter numbers : ").split())
if(opt == "+") : print(num1 + num2)
elif(opt == "-") : print(num1 - num2)
elif(opt == "*") : print(num1*num2)
else : print(num1/num2)
```

Output:

```
anirudhtn@anirudhtn-ThinkPad-E14:~/Documents/ibm$ python3 calc.py
Enter option : +, -, *, /
+
Enter numbers : 2 3
5
anirudhtn@anirudhtn-ThinkPad-E14:~/Documents/ibm$ python3 calc.py
Enter option : +, -, *, /
-
Enter numbers : 6 1
5
anirudhtn@anirudhtn-ThinkPad-E14:~/Documents/ibm$ python3 calc.py
Enter option : +, -, *, /
*
Enter numbers : 6 9
54
anirudhtn@anirudhtn-ThinkPad-E14:~/Documents/ibm$ python3 calc.py
Enter option : +, -, *, /
/
Enter numbers : 10 2
```

```
5.0
anirudhtn@anirudhtn-ThinkPad-E14:~/Documents/ibm$
```

Question 3:
Write a program to concatenate, reverse and slice a string?

Code :

```
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# WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
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# limitations under the License.

s = "first string"
t = " second string"

print("concatenating 2 strings : ")
res = s + t
print(res)

print("slicing a string : ")
print(s[:5])

print("reversing a string")
rev = s[::-1]
print(rev)
```

Output:

```
anirudhtn@anirudhtn-ThinkPad-E14:~/Documents/ibm$ python3 strings.py
concatenating 2 strings :
first string second string
```

```
slicing a string :
first
reversing a string
gnirts tsrif
anirudhtn@anirudhtn-ThinkPad-E14:~/Documents/ibm$
```

Question 4 :
Why is Python a popular programming language?

The python language is one of the most accessible programming languages available because it has simplified syntax and is uncomplicated, which gives more emphasis on natural language. Due to its ease of learning and usage, python codes can be easily written and executed much faster than other programming languages.

Question 5:
What are the other Frameworks that can be used with python?

1. Bottle
2. Cherrypy
3. CubicWeb
4. Dash
5. Django

Question 6 :
Full form of WSGI?

Web Server Gateway Interface