Assignment 2 - 12/09/2002

Q1) 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.

SOLUTION:

```
if __name__ == '__main__':
    N = int(input())
    L=[];
    for i in range(0,N):
        cmd=input().split();
        if cmd[0] == "insert":
            L.insert(int(cmd[1]),int(cmd[2]))
        elif cmd[0] == "append":
            L.append(int(cmd[1]))
        elif cmd[0] == "pop":
            L.pop();
        elif cmd[0] == "print":
            print(L)
        elif cmd[0] == "remove":
            L.remove(int(cmd[1]))
        elif cmd[0] == "sort":
            L.sort();
        else:
```

```
        L.reverse();
```

Q2) Write a Calculator program in Python?

SOLUTION:

```
def add(x, y):
    return x + y
def subtract(x, y):
    return x - y
def multiply(x, y):
    return x * y
def divide(x, y):
    return x / y
print("Select operation.")
print("1.Add")
print("2.Subtract")
print("3.Multiply")
print("4.Divide")
while True:
    choice = input("Enter choice(1/2/3/4): ")
    if choice in ('1', '2', '3', '4'):
        num1 = float(input("Enter first number: "))
        num2 = float(input("Enter second number: "))
        if choice == '1':
            print(num1, "+", num2, "=", add(num1, num2))
        elif choice == '2':
            print(num1, "-", num2, "=", subtract(num1, num2))
        elif choice == '3':
            print(num1, "*", num2, "=", multiply(num1, num2))
```

```
    elif choice == '4':
        print(num1, "/", num2, "=", divide(num1, num2))
    next_calculation = input("Let's do next calculation? (yes/no): ")
    if next_calculation == "no":
      break
    else:
    print("Invalid Input")
```

Q3) Write a program to concatenate, reverse and slice a string?

SOLUTION:

```
def concat(x, y):
    return x + y
def reverse(s):
    str = ""
    for i in s:
        str = i + str
    return str
def slicing(w, x, y):
    num = 0
    num = slice(x, y)
        return w[num]
print("Select operation.")
print("1.Concatenate")
print("2.Reverse")
print("3.Slice")
while True:

    choice = input("Enter choice(1/2/3): ")
```

```
if choice in ('1', '2', '3'):
 if choice == '1':
    str1 = input("Enter string1: ")
    str2 = input("Enter string2: ")
    print("After concatenation", concat(str1, str2))
 elif choice == '2':
    str3 = input("Enter string1: ")
    print("After reversing", reverse(str3))
 elif choice == '3':
    str3 = input("Enter string1: ")
   # num1 = input("Enter starting index: ")
    #num2 = input("Enter stopping index: ")
   # num3 = input("Enter increment: ")
    print(str3[1:3])
 next_operation = input("Let's do next operation? (yes/no): ")
 if next_operation == "no":
   break
 else:
 print("Invalid Input")
```

Q4) Why is Python a popular programming language?

SOLUTION:

- Emphasis on code readability.
- Python has shorter codes.
- Python offers versatile web-development solutions
- Python is well suited to data science and analytics.
- Python is efficient, fast, and reliable.
- Python has ease of writing.
- Python empowers custom automation.
- Python's numerous libraries and frameworks.

Q5) What are the other Frameworks that can be used with python?

SOLUTION:

- AIOHTTP
- Bottle
- CherryPy
- CubicWeb
- Dash
- Django
- Falcon
- Giotto

Q6) Full form of WSGI?

SOLUTION:

The Web Server Gateway Interface (WSGI, pronounced whiskey or WIZ-ghee) is a simple calling convention for web servers to forward requests to web applications or frameworks written in the Python programming language.