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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:

- One reason is that Python is a versatile language that can be used for a variety of tasks, including data visualization, machine learning, and deep learning.
- Python has shorter codes and ease of writing.
- Python offers versatile web-development solutions
- Python is well suited to data science and analytics.
- Python has several libraries which are designed for scientific computing.
- Python is efficient, fast, and reliable.
- Python empowers custom automation.
- Python can be used for developing web applications using frameworks such as Django and Flask.

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 (or “WSGI” for short) is a standard interface between web servers and Python web application frameworks. By standardizing behaviour and communication between web servers and Python web frameworks, WSGI makes it possible to write portable Python web code that can be deployed in any WSGI-compliant web server.