

Assignment1

September 18, 2022

1 Assignment 1

Paarush Senthilkumar (2019115063)

1.1 Question 1

Consider a list (list = []). You can perform the following commands: - insert(i,e): Insert integer e at position i . - print(): Print the list. - remove(e): Delete the first occurrence of integer e . - append(e): Insert integer e 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 e 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.

```
[13]: x = []
while (1):
    i = input()
    if len(i) == 0:
        break
    i = i.split(" ")
    command = i[0]
    if (len(i)==1):
        if command == "sort":
            x.sort()
        elif command == "pop":
            x.pop()
        elif command == "reverse":
            x.reverse()
        elif command == "print":
            print(x)
        else:
            print("Invalid Command")
    elif (len(i)==2):
        if command == "remove":
            x.remove(int(i[1]))
        elif command == "append":
            x.append(int(i[1]))
        else:
```

```

        print("Invalid Command")
    elif (len(i)==3):
        if command == "insert":
            x.insert(int(i[1]), int(i[2]))
        else:
            print("Invalid Command")
    else:
        print("Invalid Command")

```

```

append 2
append 3
insert 0 1
print

```

```
[1, 2, 3]
```

```

pop
reverse
print

```

```
[2, 1]
```

```

sort
print

```

```
[1, 2]
```

```
delete 2
```

```
Invalid Command
```

```

remove 2
print

```

```
[1]
```

1.2 Question 2

Write a calculator program in Python

```

[15]: x=0
while (1):
    print(x)
    i = input()
    if len(i) == 0:
        break
    i = i.split(" ")
    command = i[0]
    if (len(i)==1):
        if command == "clear":
            x=0

```

```

elif command == "negate":
    x=-x
elif command == "print":
    pass
else:
    print("Invalid Command")
elif (len(i)==2):
    if command == "set":
        x = float(i[1])
    elif command == "add":
        x += float(i[1])
    elif command == "subtract":
        x = x - float(i[1])
    elif command == "times":
        x = x * float(i[1])
    elif command == "by":
        x = x / float(i[1])
    elif command == "power":
        x = x ** float(i[1])
    else:
        print("Invalid Command")
else:
    print("Invalid Command")

```

0

add 2

2.0

times 3

6.0

by 2

3.0

subtract 2

1.0

add 1

2.0

power 10

1024.0

print

1024.0

1.3 Question 3

Write a program to 1) Concatenate 2) Reverse 3) Slice

a string

```
[18]: str1 = "front"
      str2 = "back"
      strcat = str1+str2
      print(strcat)
      strcat = strcat[::-1]
      print(strcat)
      print(strcat[2:4])
```

frontback

kcabtnorf

ab

1.4 Question 4

Why is Python a popular programming language?

- 1) Easy to learn (syntax similar to natural english)
- 2) A lot of libraries and frameworks
- 3) Use in academic setting
- 4) Large number of corporate sponsors
- 5) Use in Big Data and ML
- 6) Reduced development time
- 7) Multiplatform
- 8) Community Support

1.5 Question 5

What are the other frameworks than can be used with Python?

- 1) Django
- 2) Web2Py
- 3) Flask
- 4) Bottle
- 5) CherryPy
- 6) Pyramid
- 7) Falcon

1.6 Question 6

Full form of WSGI?

Web Server Gateway Interface