Laboratory Activity 3

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Course/Section: A11

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1.

Problem:

Create a program that accepts 10 positive integers then displays the integers in ascending and descending order. Additionally, the average, the highest, the lowest of all inputs is shown at the end of output.

Code:

```
def InputNum():

    num = [int(input('Enter a Number: ')) for i in range(10)]
    a = sorted(num)
    b = sorted(num, reverse=True)
    c = sum(num)/len(num)
    d = max(num)
    e = min(num)
    print('\nInput Order: %s\nAscending Order: %s\nDescending Order: %s\nAverage: %s\nHighest: %s\nLowest: %s'
    %(str(num),str(a),str(b),str(c),str(d),str(e)))
```

Output:

```
Enter Selection: 1
Enter a Number: 3
Enter a Number: 1
Enter a Number: 2
Enter a Number: 4
Enter a Number: 5
Enter a Number: 6
Enter a Number: 7
Enter a Number: 8
Enter a Number: 9
Enter a Number: 10

Input Order: [3, 1, 2, 4, 5, 6, 7, 8, 9, 10]
Ascending Order: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
Descending Order: [10, 9, 8, 7, 6, 5, 4, 3, 2, 1]
Average: 5.5
Highest: 10
Lowest: 1
1. Input_Number
2. Input_String
Type [End] to quit
```

2.

Problem:

Create a program that accepts 5 String inputs. These string inputs may consist of more than 1 word. Afterwards, the list shows all elements it contains in the same order as it was inputted and in reverse order.
Using the program above as a base, expand the program such that it allows 3functions:
The user can append to the list any string input.
The user can insert to the list at any position any string input.
The user can remove a certain word from the list.
Code:

```
def Input_order():
    string_input = []
    def ending():
        exit()
    def add_list_string():
        user_string = input("enter your string to append the it in list: ")
        string_input.append(user_string)
        print("\nnow your string is")
        print(string_input)
    def insert_at_position():
        user_index = int(input("enter your location to insert string: "))
        value = input("enter your string: ")
        string_input.insert(user_index-1,value)
        print("now your string is")
        print(string_input)
    def remove_string():
        item = input("which string you want to remove: ")
        string_input.remove(item)
        print("now your string is")
        print(string_input)

    for i in range(5):
        user = input("Please enter 5 string: ")

        if len(user) > 1:
            string_input.append(user)
        else:
            print("please enter string with more than one letter")
            ending()
    b = sorted(string_input)
    c = sorted(string_input, reverse = True)
    print('\nInput Order: %s\nAlphabetical order: %s\nReverse order: %s' %(str(string_input),str(b),str(c)))

    while True:
        print(
            "\n\n1. for append string and print\n" +
            "2. for insert at particular position and print\n" +
            "3. for remove string and print\n" +
            "Type [End] to quit\n")

        selection = input("Enter Selection: ")

        print()
    #The selection from the program
        {"1":add_list_string,
        "2":insert_at_position,
        "3":remove_string,
        "End":ending
        }[selection]()
```

Output:

```
Enter Selection: 2
Please enter 5 string: aa
Please enter 5 string: bb
Please enter 5 string: cc
Please enter 5 string: dd
Please enter 5 string: ee

Input Order: ['aa', 'bb', 'cc', 'dd', 'ee']
Alphabetical order: ['aa', 'bb', 'cc', 'dd', 'ee']
Reverse order: ['ee', 'dd', 'cc', 'bb', 'aa']


1. for append string and print
2. for insert at particular position and print
3. for remove string and print
Type [End] to quit

Enter Selection:
```

#Append:

```
1. for append string and print
2. for insert at particular position and print
3. for remove string and print
Type [End] to quit

Enter Selection: 1

enter your string to append the it in list: xx

now your string is
['aa', 'bb', 'cc', 'dd', 'ee', 'xx']
```

#Insert:

```
1. for append string and print
2. for insert at particular position and print
3. for remove string and print
Type [End] to quit

Enter Selection: 2

enter your location to insert string: 1
enter your string: first
now your string is
['first', 'aa', 'bb', 'cc', 'dd', 'ee']
```

#Remove:

```
1. for append string and print
2. for insert at particular position and print
3. for remove string and print
Type [End] to quit

Enter Selection: 3

which string you want to remove: aa
now your string is
['bb', 'cc', 'dd', 'ee']
```

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