Machine Learning Assignment-2

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Question 1

Use a python code to display the following star pattern using the for loop.

Solution Screenshot:

```
#Question 1
for i in range(1,6):
    print("* "*i)
for i in range(1,5):
    print ("* "*(5-i))
```

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

Description:

I have used two for loops to print star pattern. Upper part of the loop with one loop and lower part with another loop.

Question 2

Use looping to output the elements from a provided list present at odd indexes.

my_list = [10, 20, 30, 40, 50, 60, 70, 80, 90, 100]

Solution Screenshot:

```
#Question 2
my_list = [10, 20, 30, 40, 50, 60, 70, 80, 90, 100]
for i in range(1,len(my_list),2):
    print(my_list[i],end=" ")
```

```
20 40 60 80 100
```

Description:

To get odd indexes, I have used range function from “1” to “Length of the list” with step “2”.

Question 3

Write a code that appends the type of elements from a given list.

Input x = [23, ‘Python’, 23.98]

Expected output: [23, 'Python', 23.98]

[<class 'int'>, <class 'str'>, <class 'float'>]

Solution Screenshot:

```
#Question 3
x= [23, 'Python', 23.98]
l=[]
for i in x:
    l.append(type(i))
print(x)
print(l)
```

```
[23, 'Python', 23.98]
[<class 'int'>, <class 'str'>, <class 'float'>]
```

Description:

Traverse the list and append the type of the elements using type() function to the new list.

Question 4

Write a function that takes a list and returns a new list with unique items of the first list.
Sample List: [1,2,3,3,3,3,4,5]

Unique List: [1, 2, 3, 4, 5]

Solution Screenshot:

```
#Question 4
def remove_duplicates(l):
    return list(set(l))

x=[1,2,3,3,3,3,4,5]
print(remove_duplicates(x))
```

```
[1, 2, 3, 4, 5]
```

Description:

Here, I created a function with name remove_duplicates which will return unique items of the list where, I used set() to remove duplicate items from the list.

Question 5

Write a function that accepts a string and calculate the number of upper-case letters and lower-case letters.

Input String: 'The quick Brow Fox'

Expected Output: No. of Upper-case characters: 3

No. of Lower-case Characters: 12

Solution Screenshot:

```
#Question 5
def cal(s):
    u=0
    l=0
    for i in s:
        if i.islower():
            l+=1
        elif i.isupper():
            u+=1
    print("No. of Upper-case characters :",u)
    print("No. of Lower-case Characters :",l)


s= 'The quick Brow Fox'
cal(s)
```

```
No. of Upper-case characters : 3
No. of Lower-case Characters : 12
```

Description:

To count upper and lower case letters in a given string. I used islower() and isupper() functions.

Github Link: https://github.com/ChetanNaga/Machine-Learning