# MACHINE LEARNING ASSIGNMENT 2

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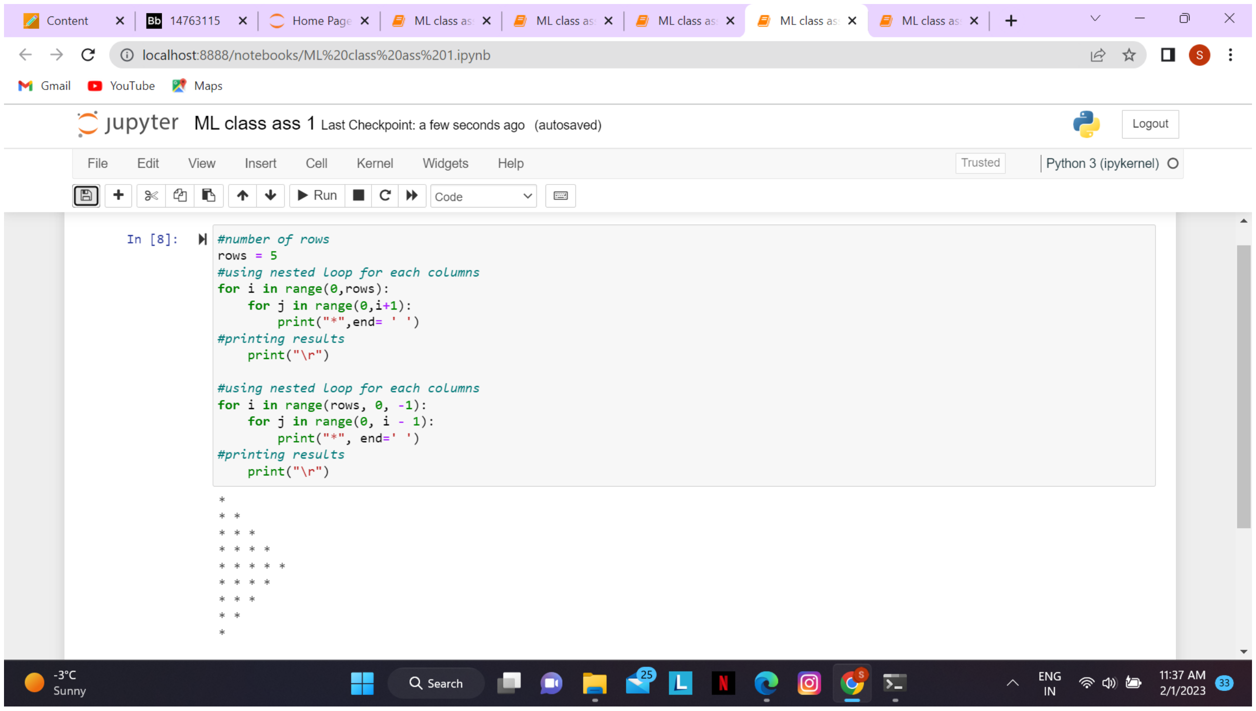
Video link:
https://drive.google.com/file/d/1s2eDRS_BCWJ4KqAFXlwlKeo5BpI0dvtr/view?usp=share_link

1. To print given star pattern we use 5 rows and we use nested loop for each column in the range 5. The star symbol is printed in 5 columns then we use end. Next, we use another nested loop to print another star columns.

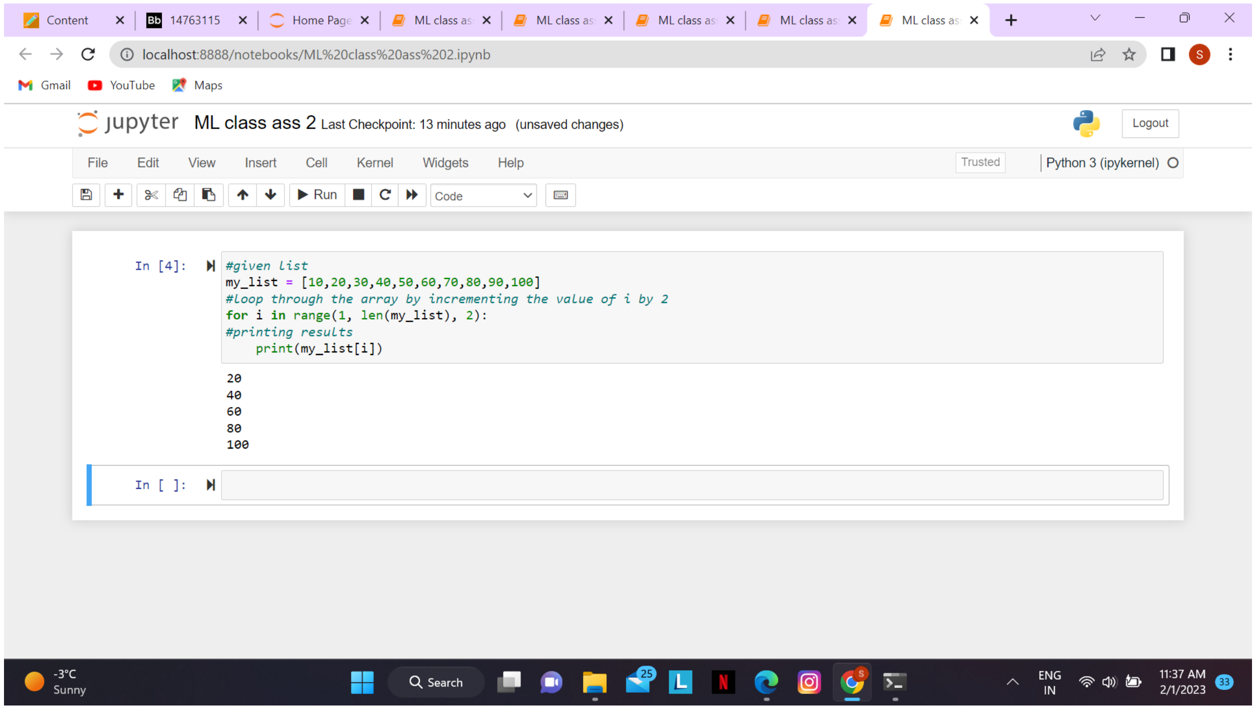

localhost:8888/notebooks/ML%20class%20ass%201.ipynb
jupyter ML class ass 1 Last Checkpoint: a few seconds ago (autosaved)
File Edit View Insert Cell Kernel Widgets Help
Trusted
Python 3 (ipykernel)
Run
Code

```
In [8]:
#number of rows
rows = 5
#using nested loop for each columns
for i in range(0,rows):
    for j in range(0,i+1):
        print("*",end= ' ')
#printing results
    print("\r")

#using nested loop for each columns
for i in range(rows, 0, -1):
    for j in range(0, i - 1):
        print("*", end=' ')
#printing results
    print("\r")
```

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

2. For the given list of elements we can print the odd index elements by looping through the array by incrementing the value of i by 2 starting from the index 1. Then print the results.


localhost:8888/notebooks/ML%20class%20ass%202.ipynb
jupyter ML class ass 2 Last Checkpoint: 13 minutes ago (unsaved changes)
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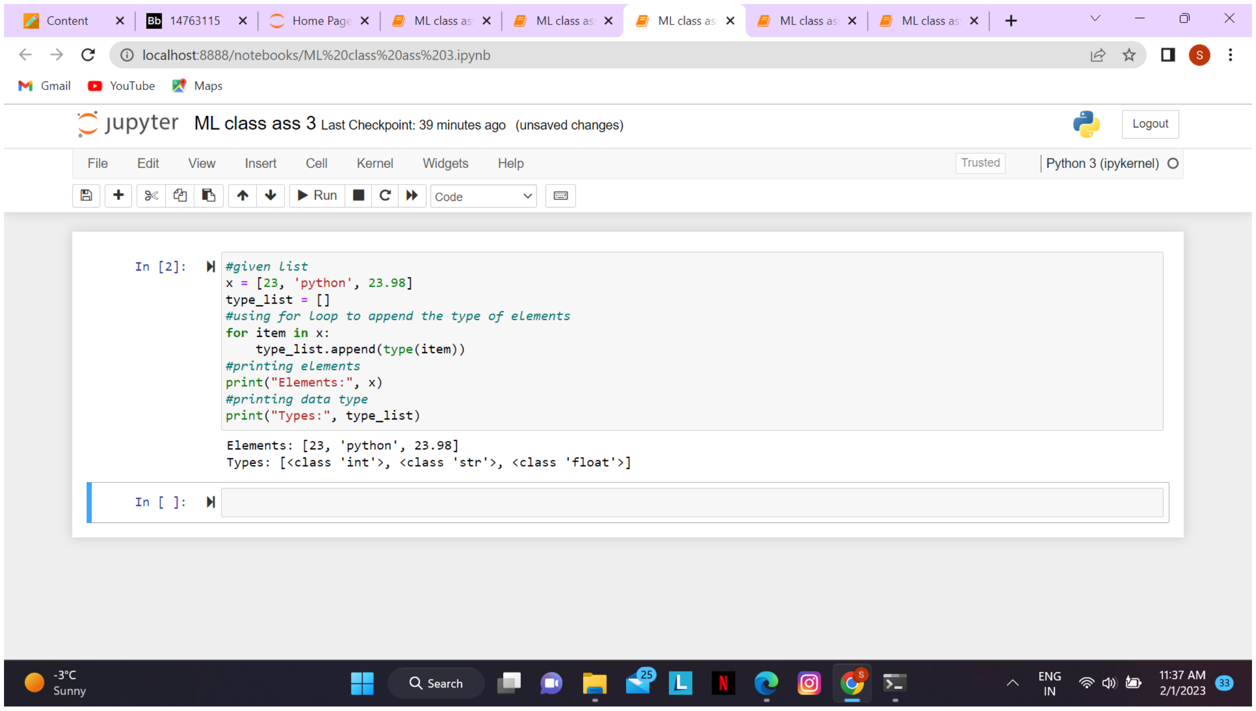
Python 3 (ipykernel)

```
In [4]:
#given list
my_list = [10,20,30,40,50,60,70,80,90,100]
#loop through the array by incrementing the value of i by 2
for i in range(1, len(my_list), 2):
#printing results
    print(my_list[i])

20
40
60
80
100
```

3. For the given list we have to create type_list to store the elements and we can append the data type of the elements by using append(type(item)) method. Then print the elements and data types.


localhost:8888/notebooks/ML%20class%20ass%203.ipynb
jupyter ML class ass 3 Last Checkpoint: 39 minutes ago (unsaved changes)
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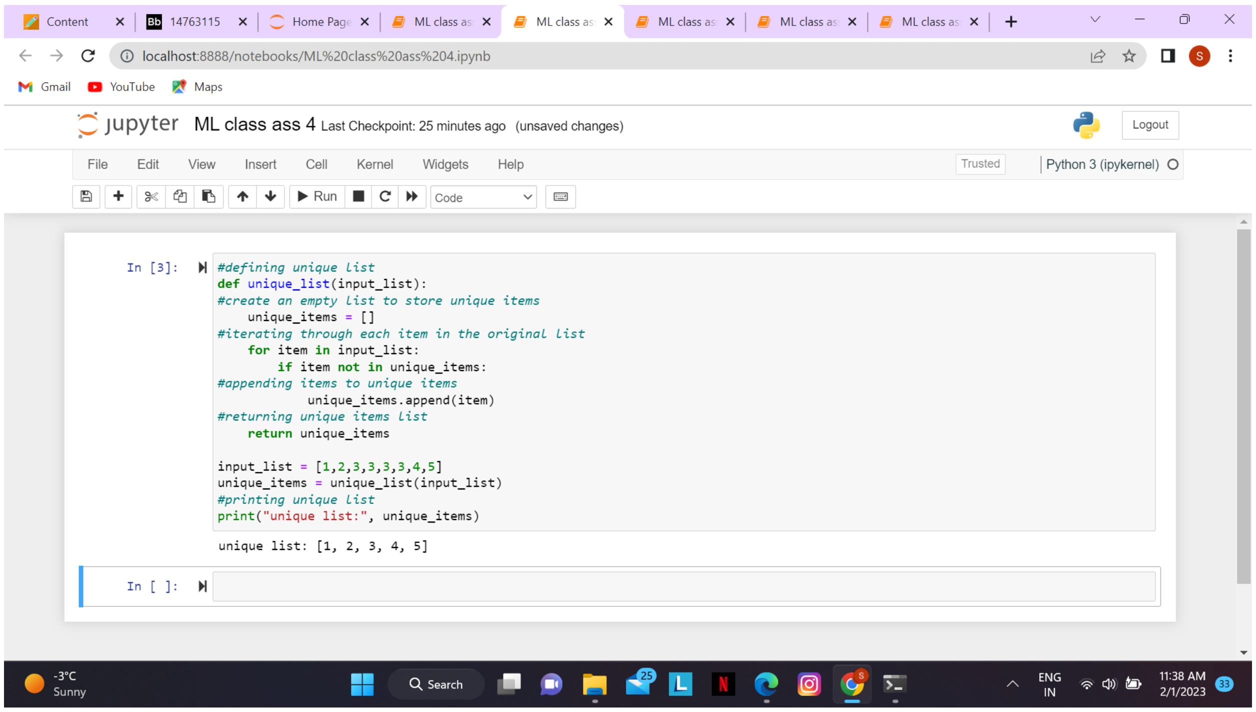
Python 3 (ipykernel)

```
In [2]:
#given list
x = [23, 'python', 23.98]
type_list = []
#using for loop to append the type of elements
for item in x:
    type_list.append(type(item))
#printing elements
print("Elements:", x)
#printing data type
print("Types:", type_list)

Elements: [23, 'python', 23.98]
Types: [<class 'int'>, <class 'str'>, <class 'float'>]
```

4. Create an empty list to store unique items then iterate through each item in original list by using for loop. We can append items to unique items by using append( ) method. Then return the unique items list and print the results.

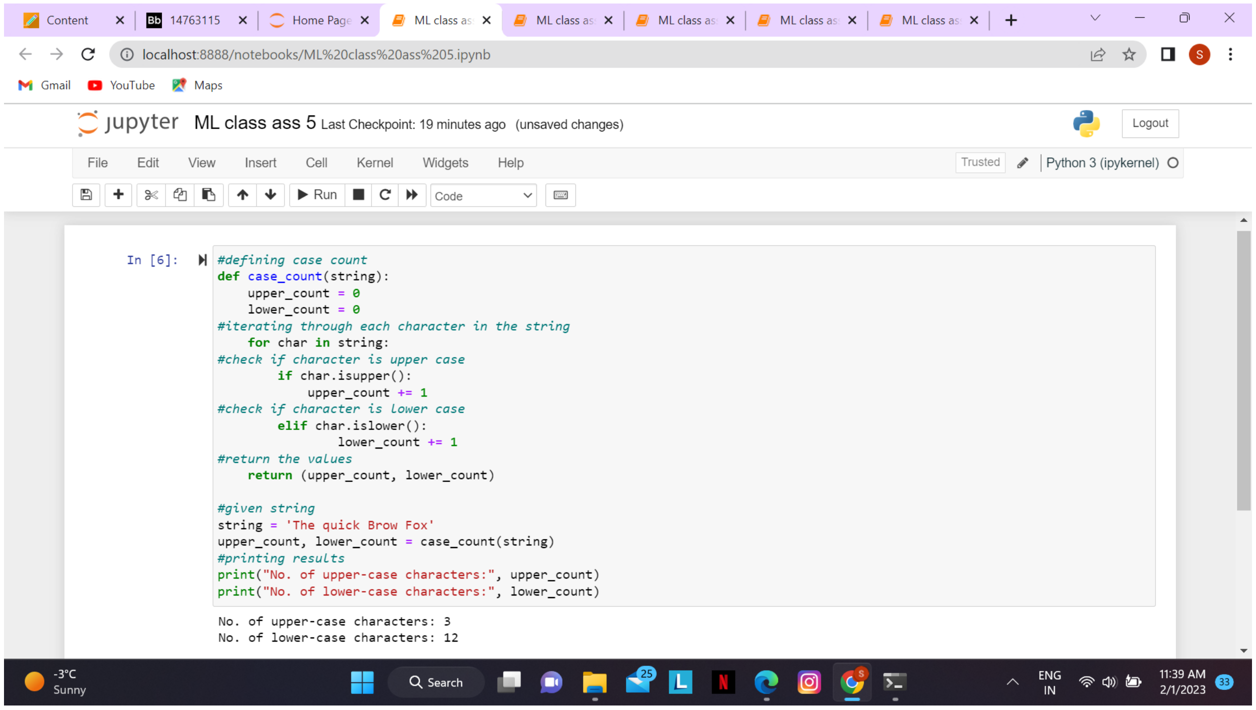

jupyter ML class ass 4 Last Checkpoint: 25 minutes ago (unsaved changes)
File Edit View Insert Cell Kernel Widgets Help
Trusted
Python 3 (ipykernel)
Run
Code

```
In [3]: #defining unique list
def unique_list(input_list):
#create an empty list to store unique items
    unique_items = []
#iterating through each item in the original list
    for item in input_list:
        if item not in unique_items:
#appending items to unique items
            unique_items.append(item)
#returning unique items list
    return unique_items

input_list = [1,2,3,3,3,3,4,5]
unique_items = unique_list(input_list)
#printing unique list
print("unique list:", unique_items)
```

```
unique list: [1, 2, 3, 4, 5]
```

5. Given string ‘The quick Brow Fox’. Define case count and iterate through each character in the string using for loop. Check if character is uppercase or lowercase and return the values. Then print the results.



In [6]:

```
#defining case count
def case_count(string):
    upper_count = 0
    lower_count = 0
#iterating through each character in the string
    for char in string:
#check if character is upper case
        if char.isupper():
            upper_count += 1
#check if character is lower case
        elif char.islower():
                lower_count += 1
#return the values
    return (upper_count, lower_count)

#given string
string = 'The quick Brow Fox'
upper_count, lower_count = case_count(string)
#printing results
print("No. of upper-case characters:", upper_count)
print("No. of lower-case characters:", lower_count)
```

```
No. of upper-case characters: 3
No. of lower-case characters: 12
```