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localhost:8888/notebooks/1_SimpleGraph.ipynb

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Trusted Python 3

```
In [1]: 1
        2 #pip install matplotlib
        3 # or
        4 #conda install matplotlib

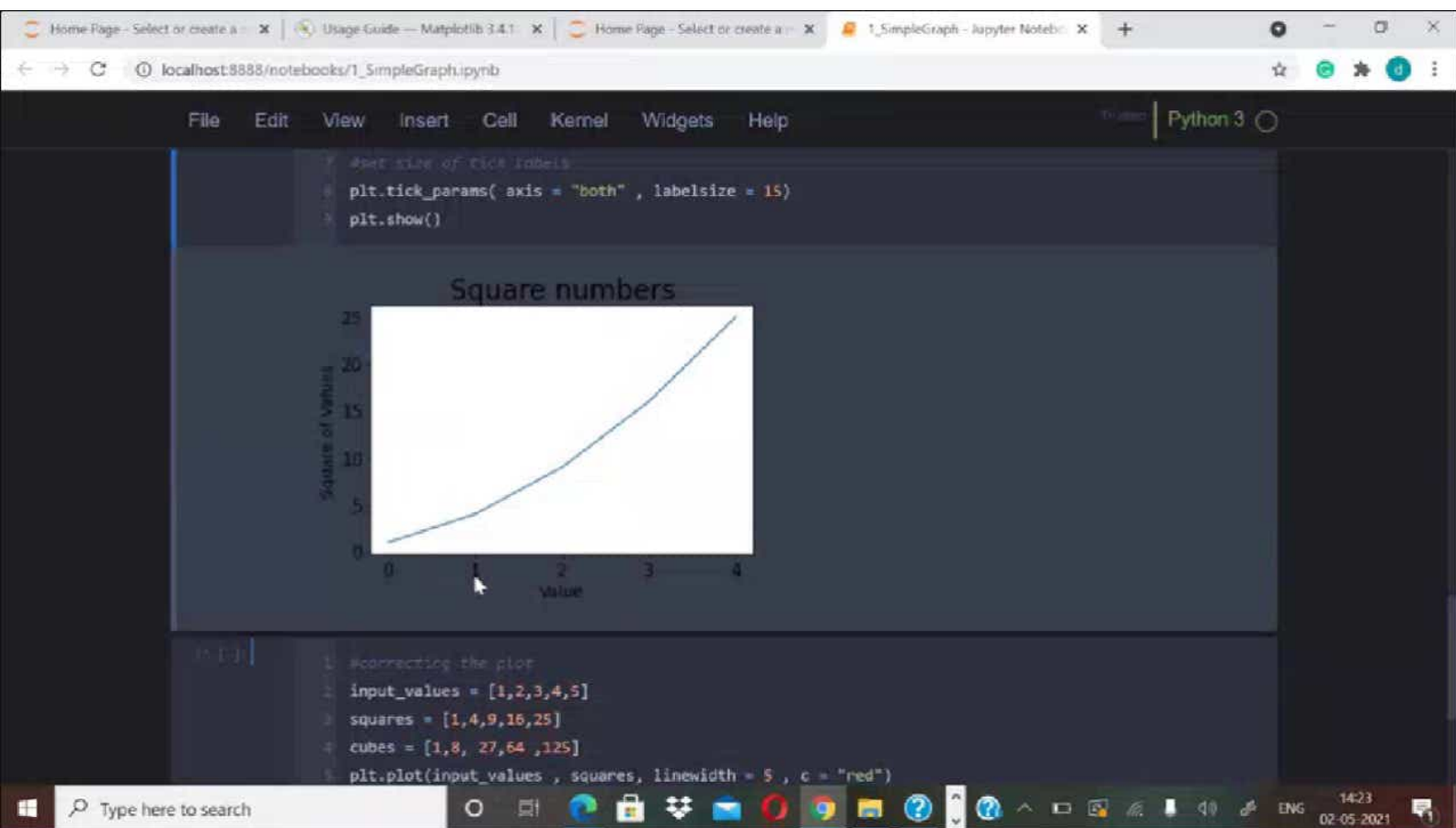
In [1]: 1 #importing matplotlib
        2 import matplotlib.pyplot as plt

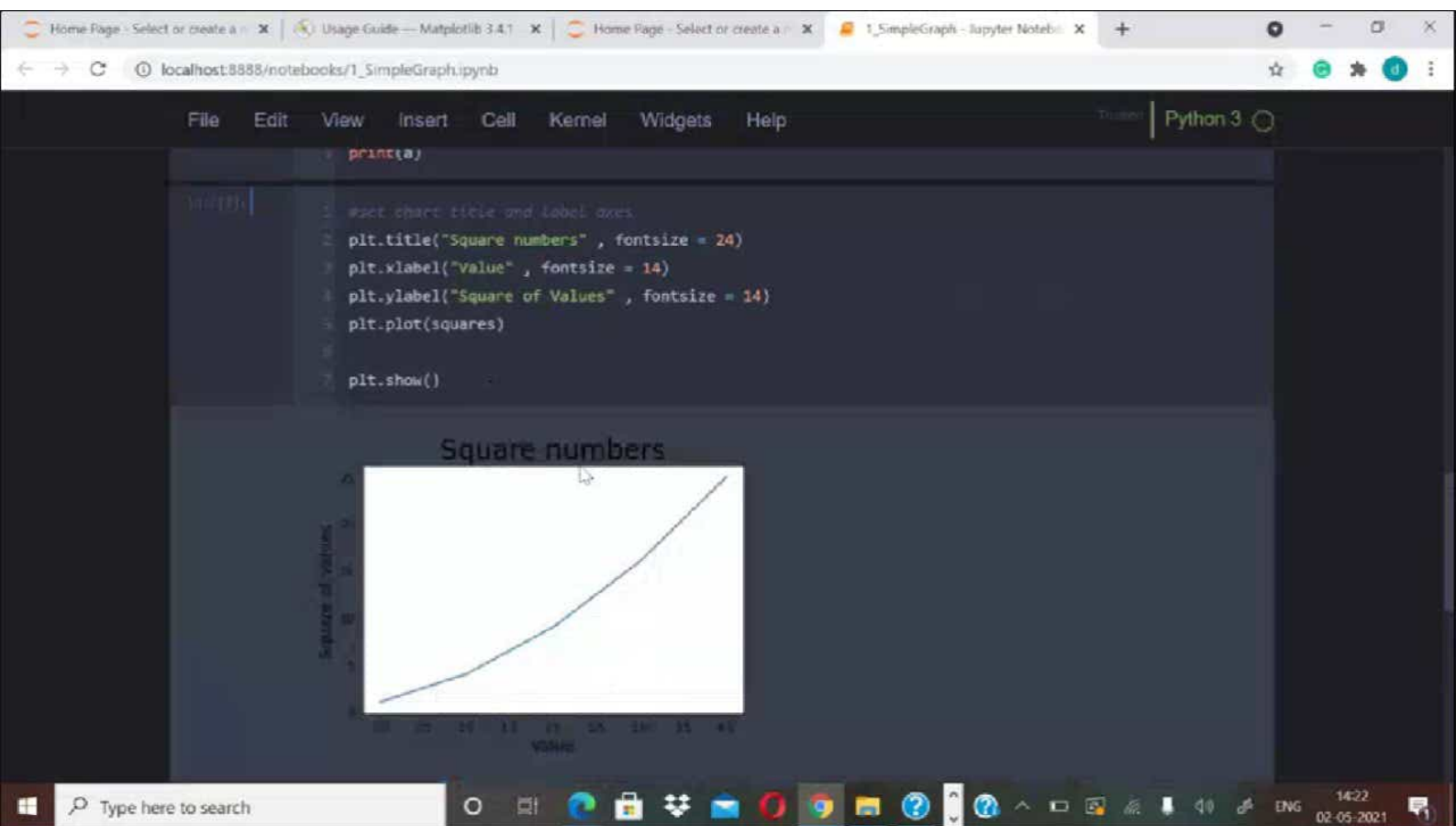
In [1]: 1 #plotting a simple graph
        2
        3 #list - []
        4 #tuple - ()
        5 #dict - {}

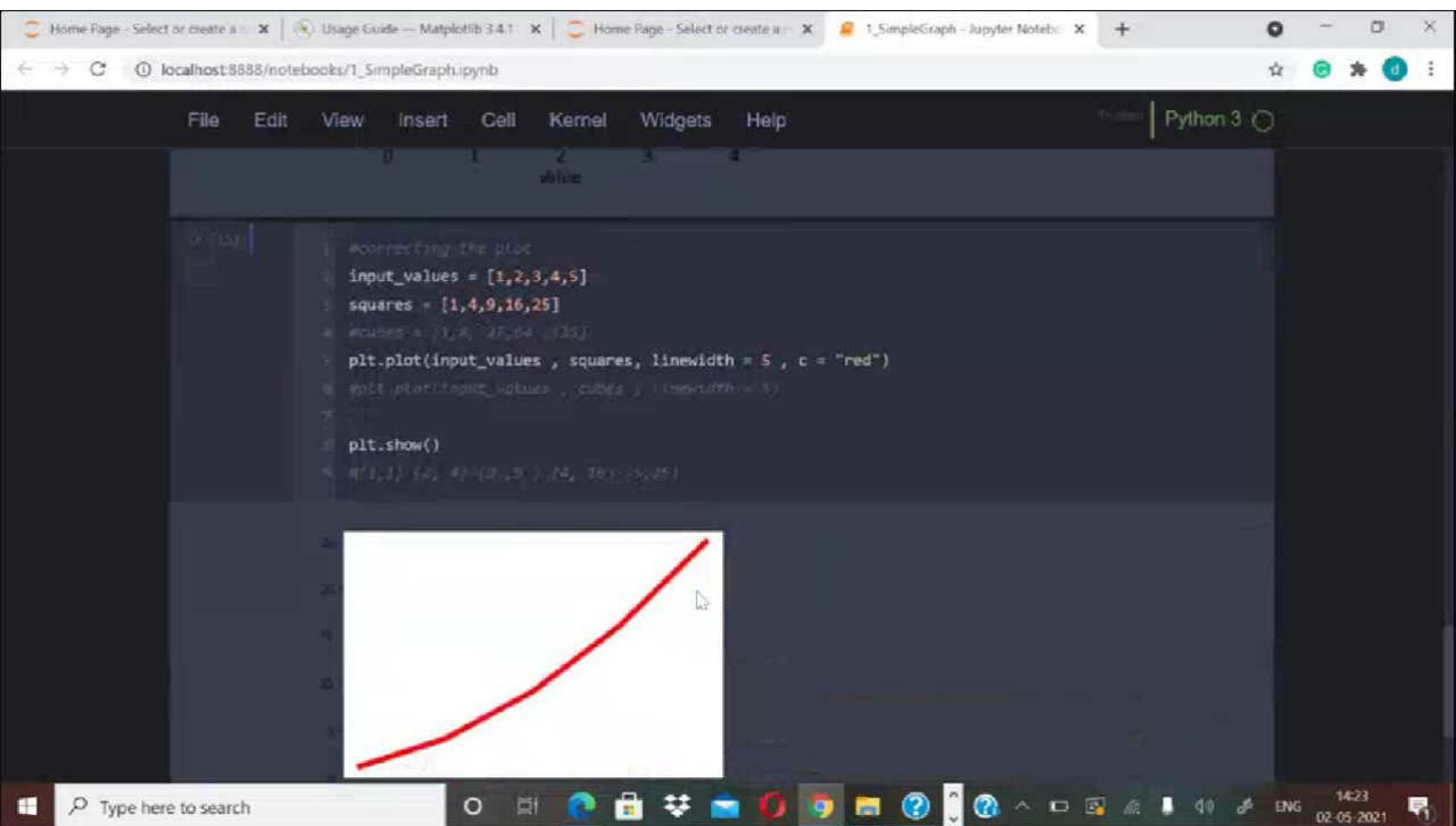
In [1]: 1 squares = [1,4,9,16,25]
        2 plt.plot(squares)
        3 plt.show()
        4
        5 #(0,1) (1, 4) (2, 9) (3, 16) (4,25)
```

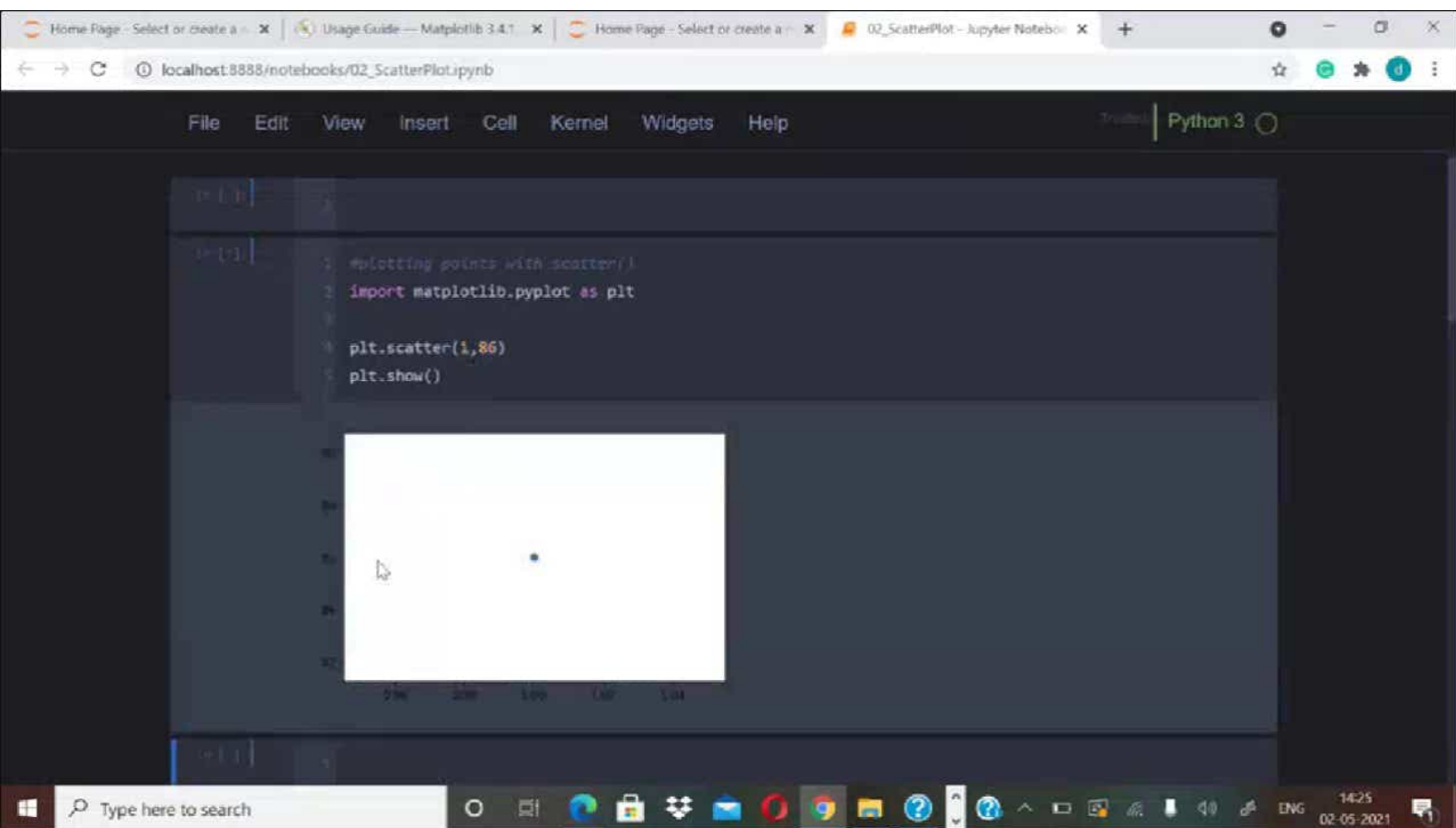
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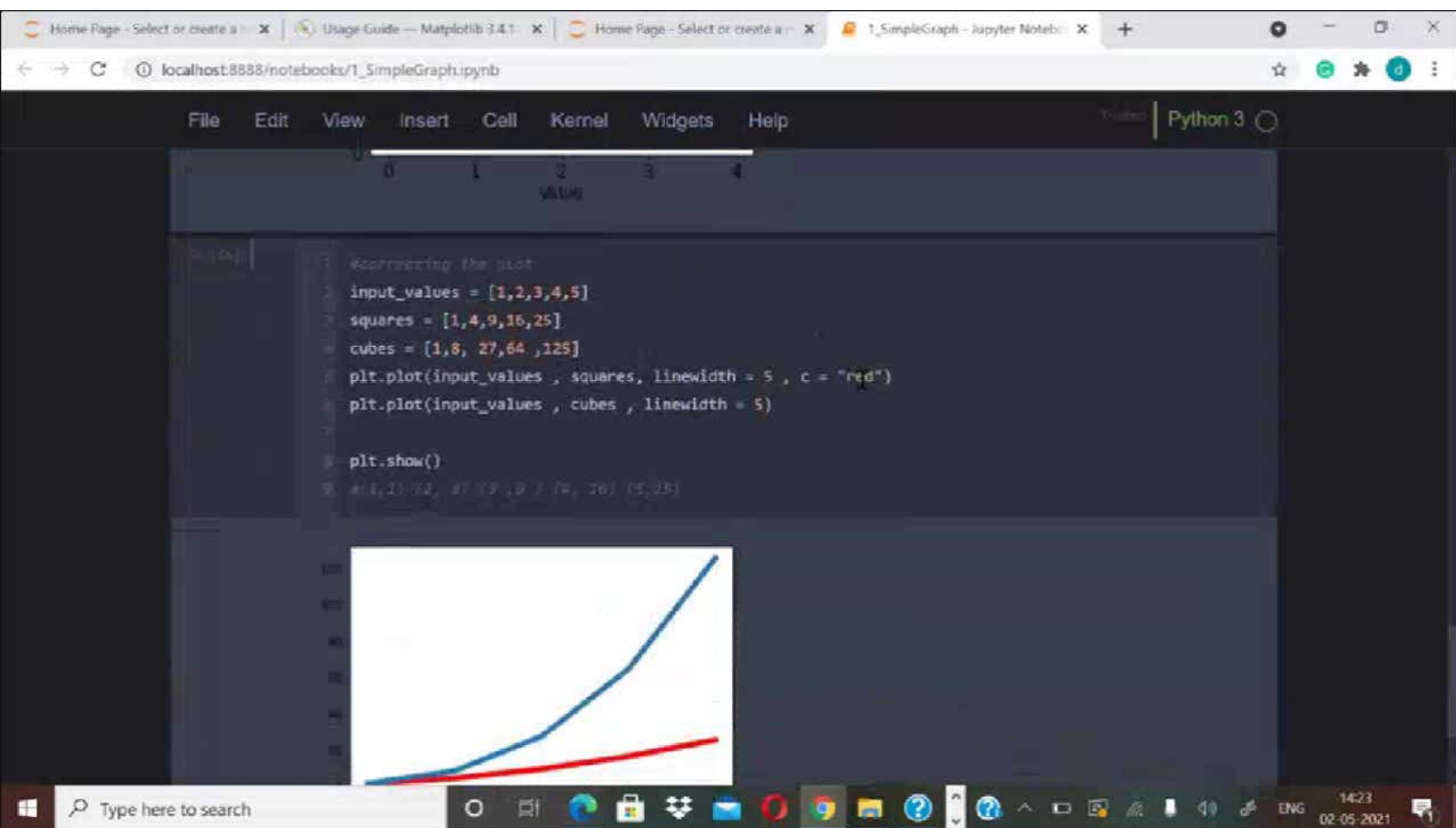
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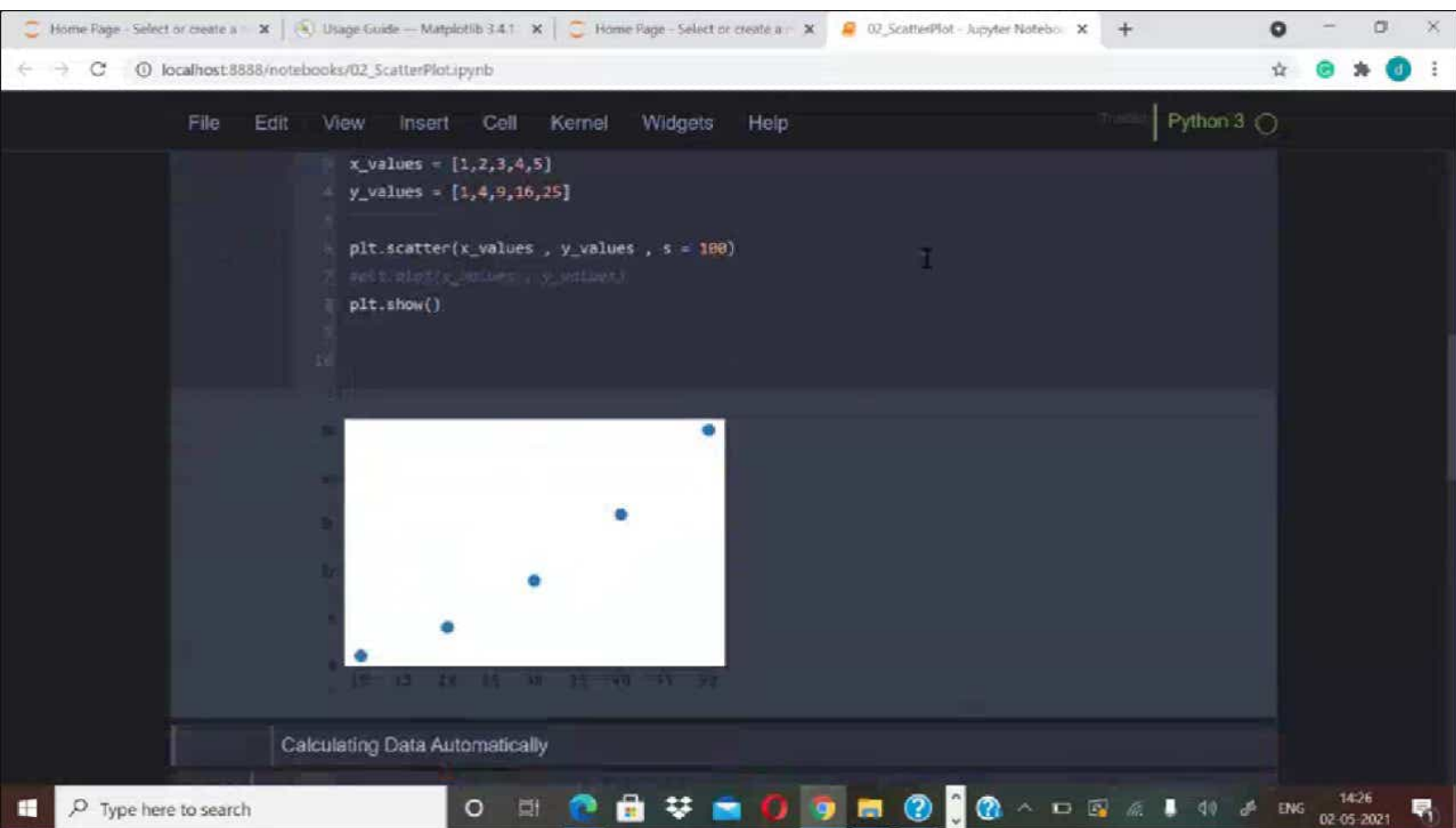


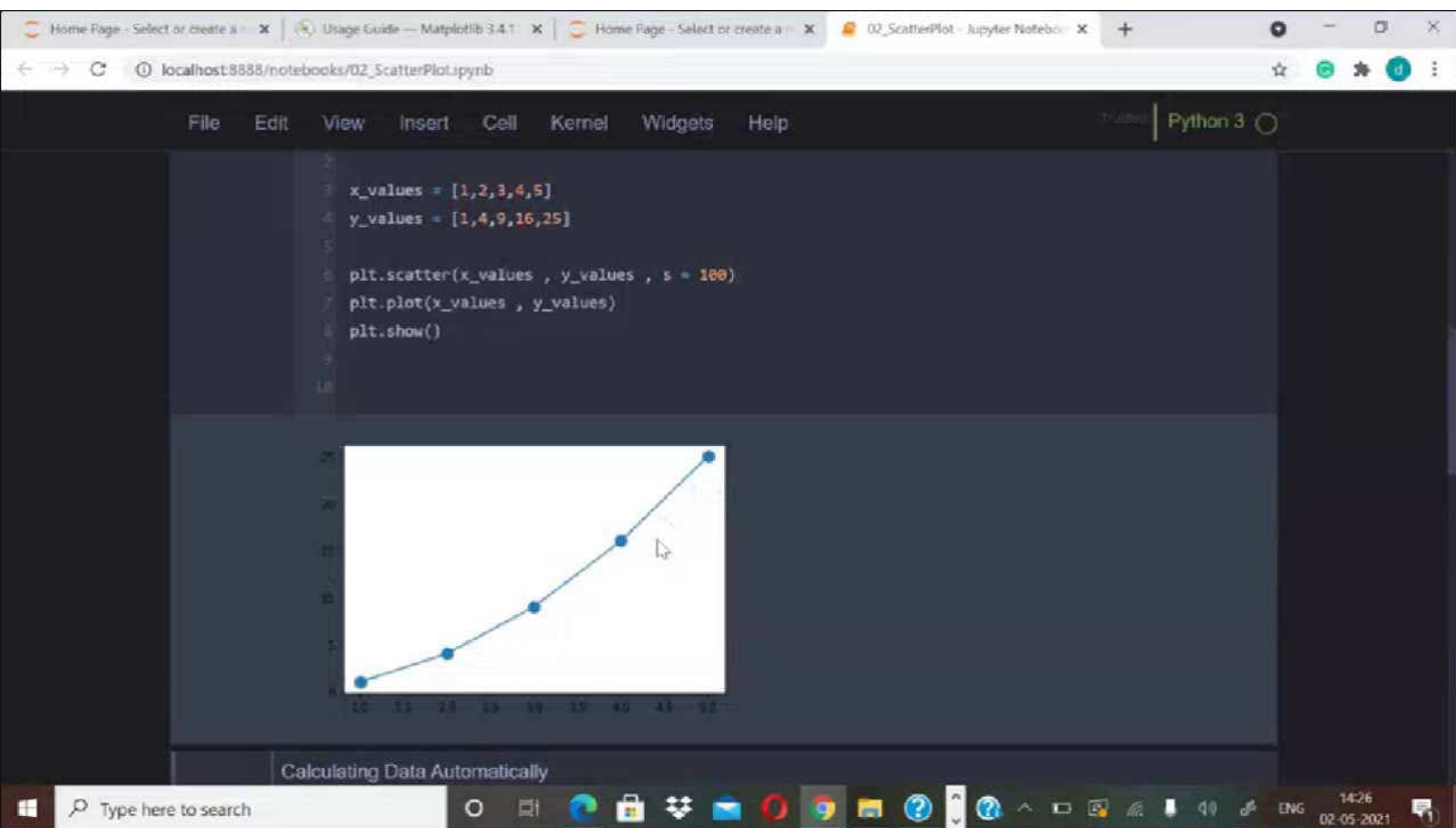












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Calculating Data Automatically

In [12]:

```
1
2 print(x_values)
3 y_values = [x**2 for x in x_values]
4 print(y_values)
5 #x**3 for x in x_values
```

```
[1, 2, 3, 4, 5, 6, 7, 8, 9]
[1, 4, 9, 16, 25, 36, 49, 64, 81]
```

In [13]:

```
1 x_values = list(range(1, 10))
2 x_values
```

```
[1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [14]:

```
1 x_values = list(range(1, 15))
2 print(x_values)
3 y_values = [x**3 for x in x_values]
4
```

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```
1 x_values = list(range(1, 10))
2 x_values
3
4 [1, 2, 3, 4, 5, 6, 7, 8, 9]
```

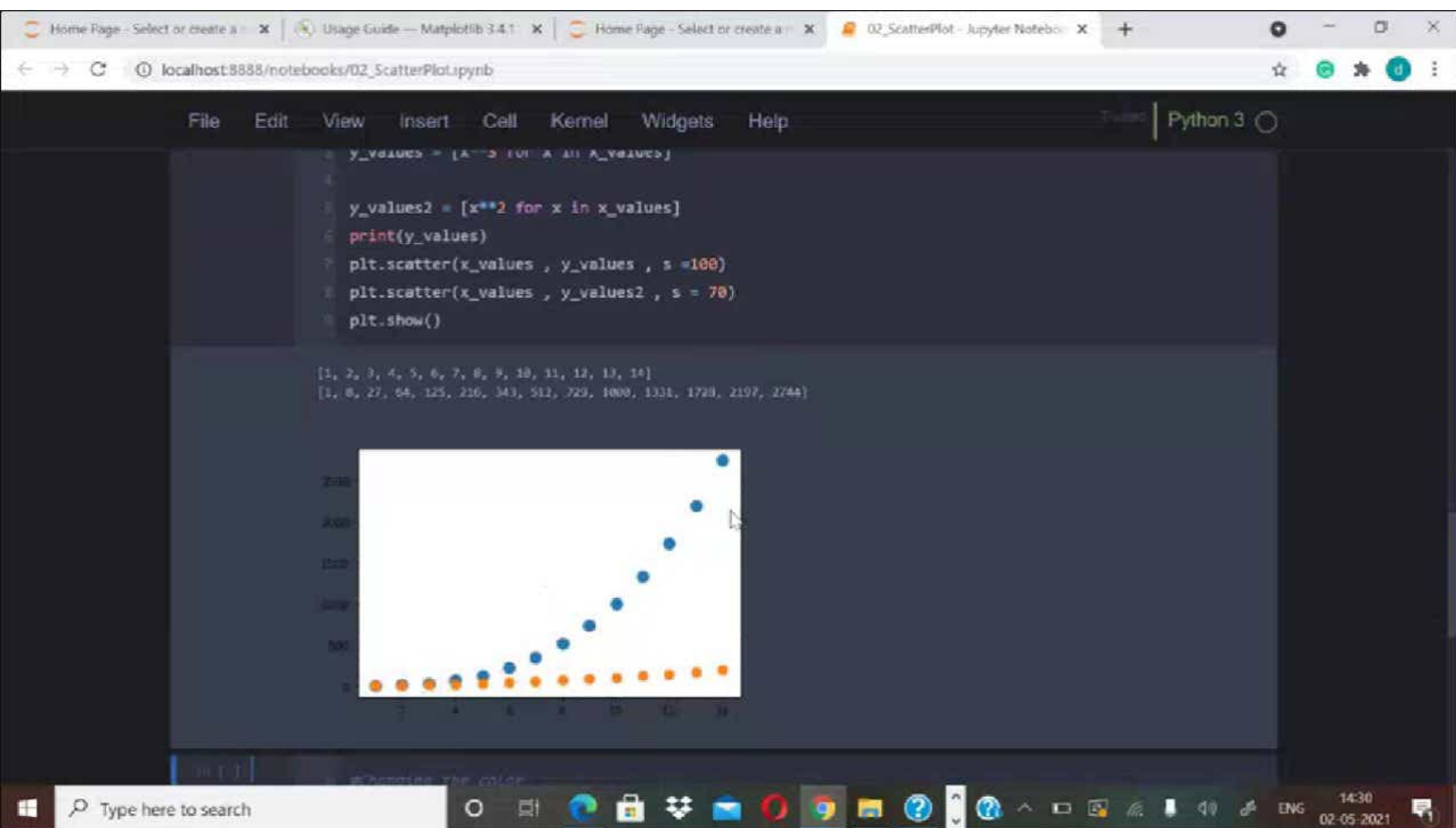
```
1 x_values = list(range(1, 15))
2 print(x_values)
3 y_values = [x**3 for x in x_values]
4
5 y_values2 = [x**2 for x in x_values]
6 print(y_values)
7 plt.scatter(x_values, y_values, s=1000)
8 plt.scatter(x_values, y_values2, s=70)
9 plt.show()
```

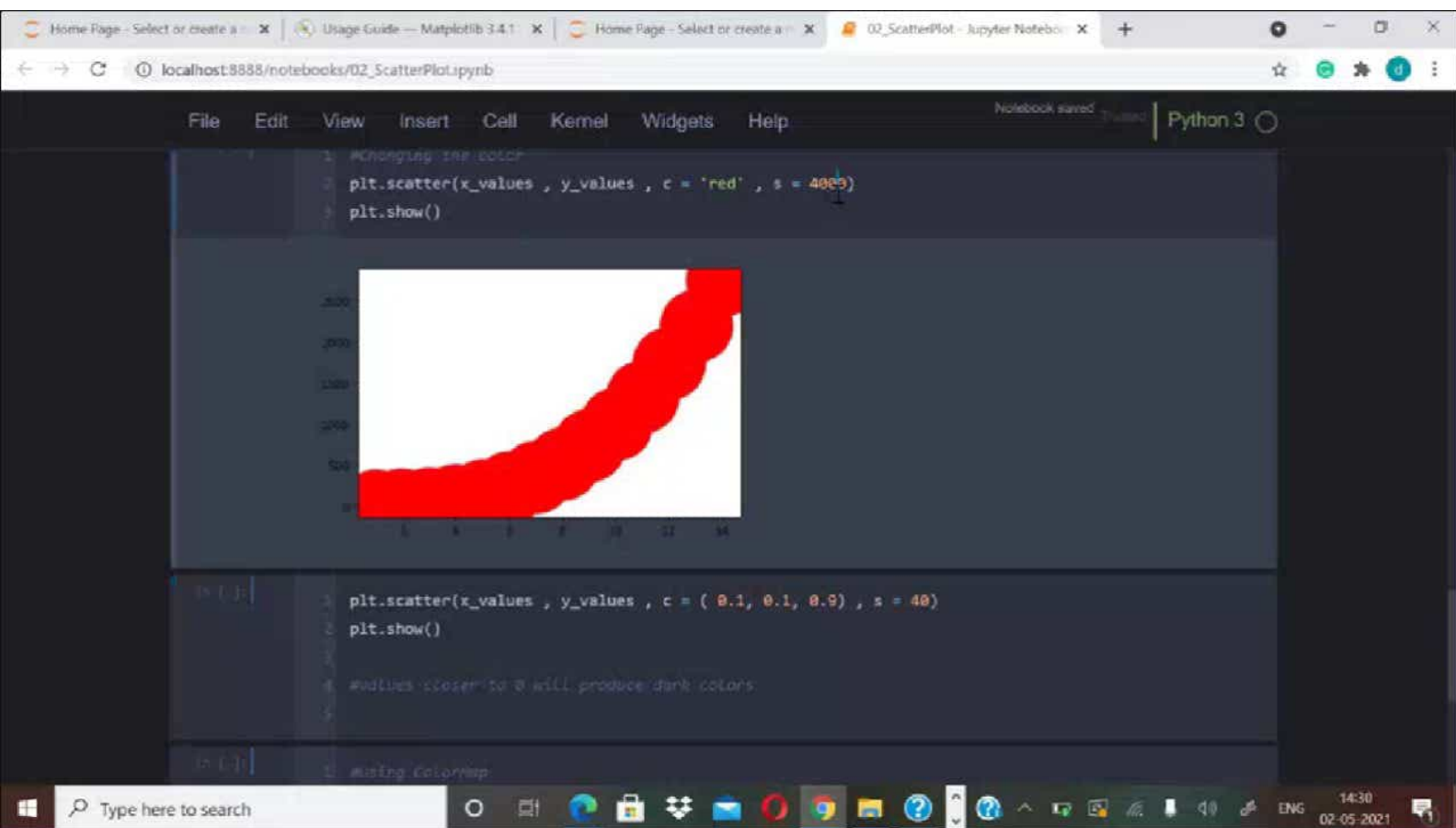
```
1 #Changing the color
2 plt.scatter(x_values, y_values, c='red', s=40)
3 plt.show()
```

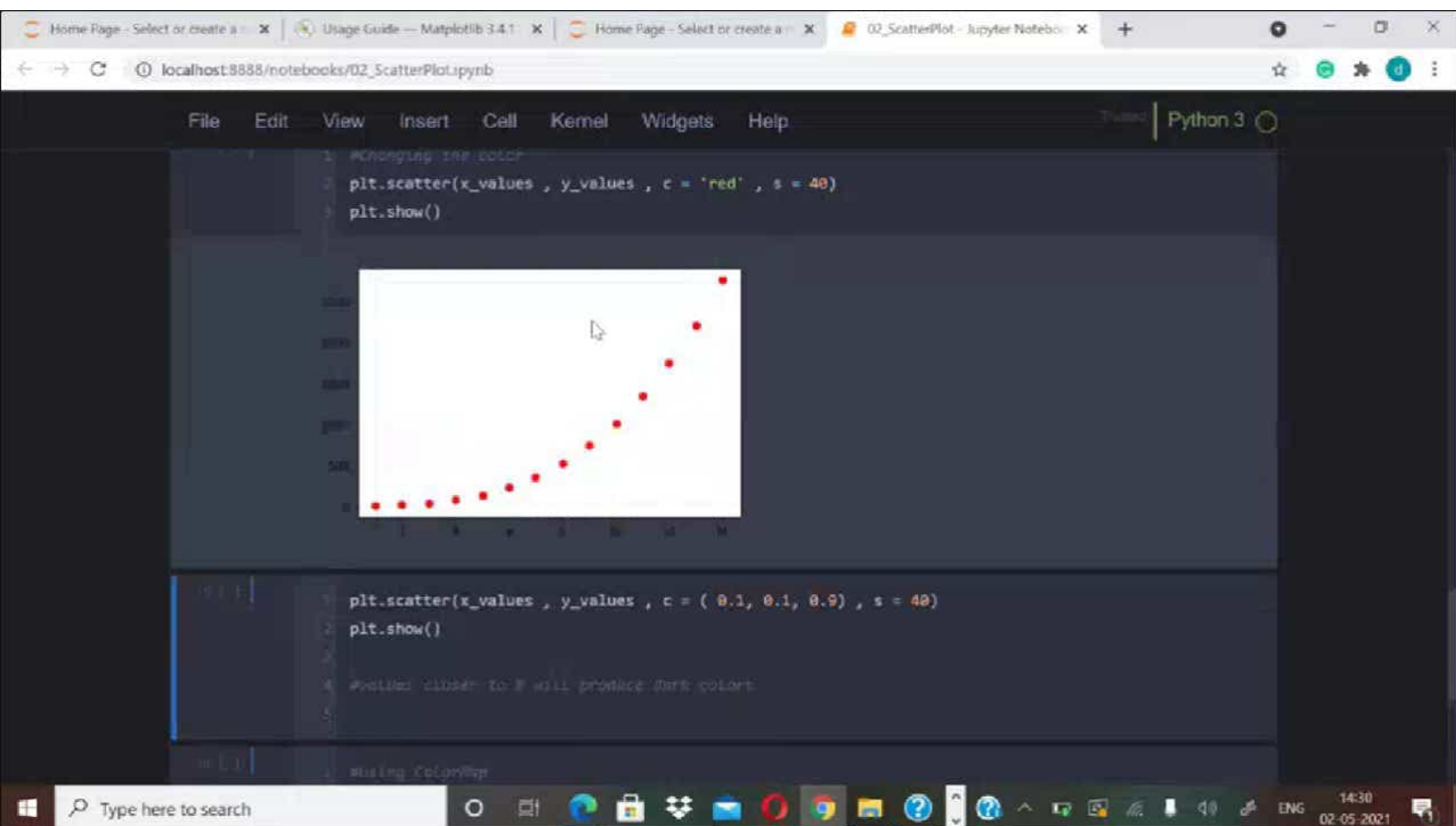
```
1 plt.scatter(x_values, y_values, c=(0.1, 0.1, 0.9), s=40)
2 plt.show()
```

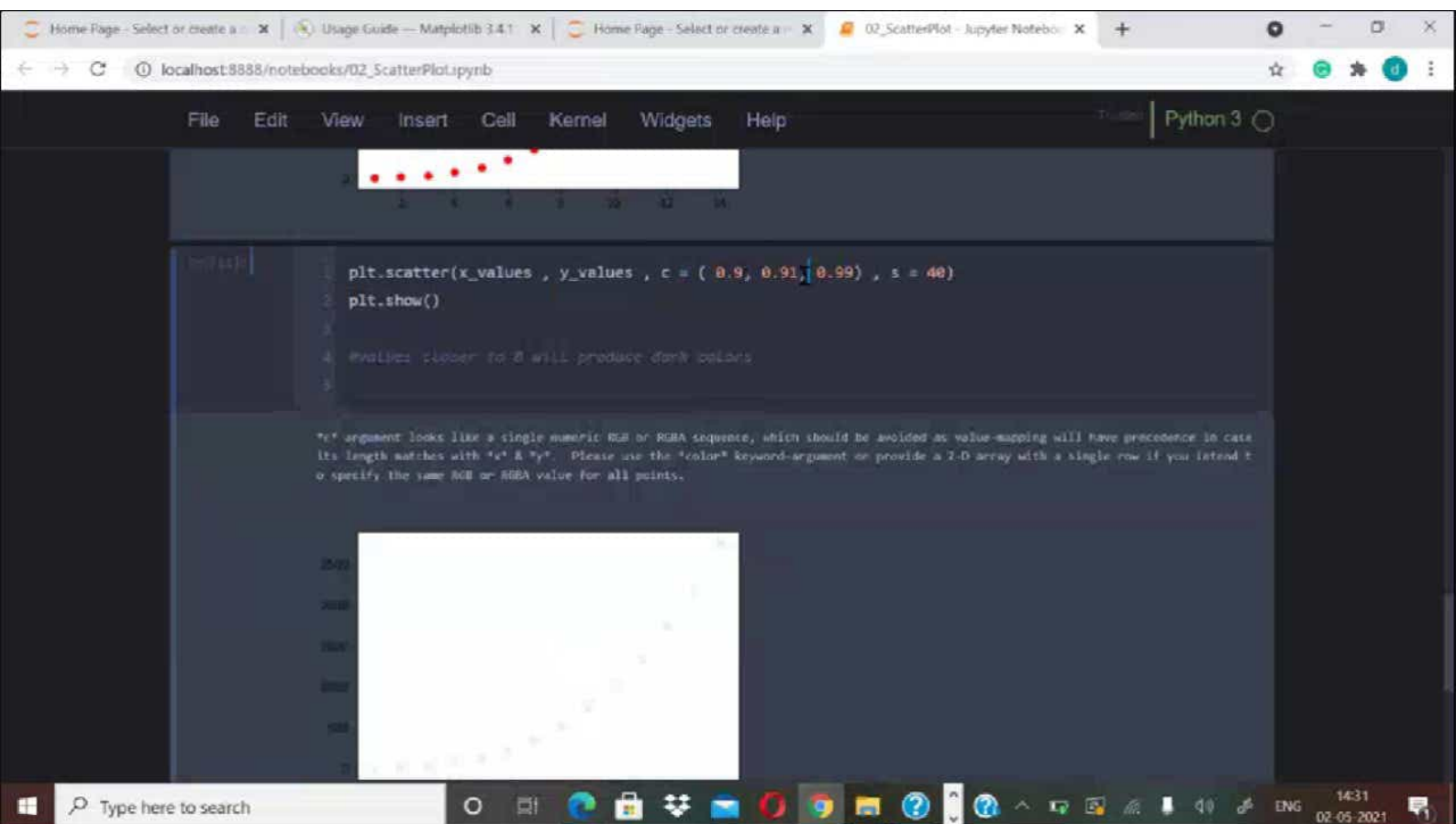
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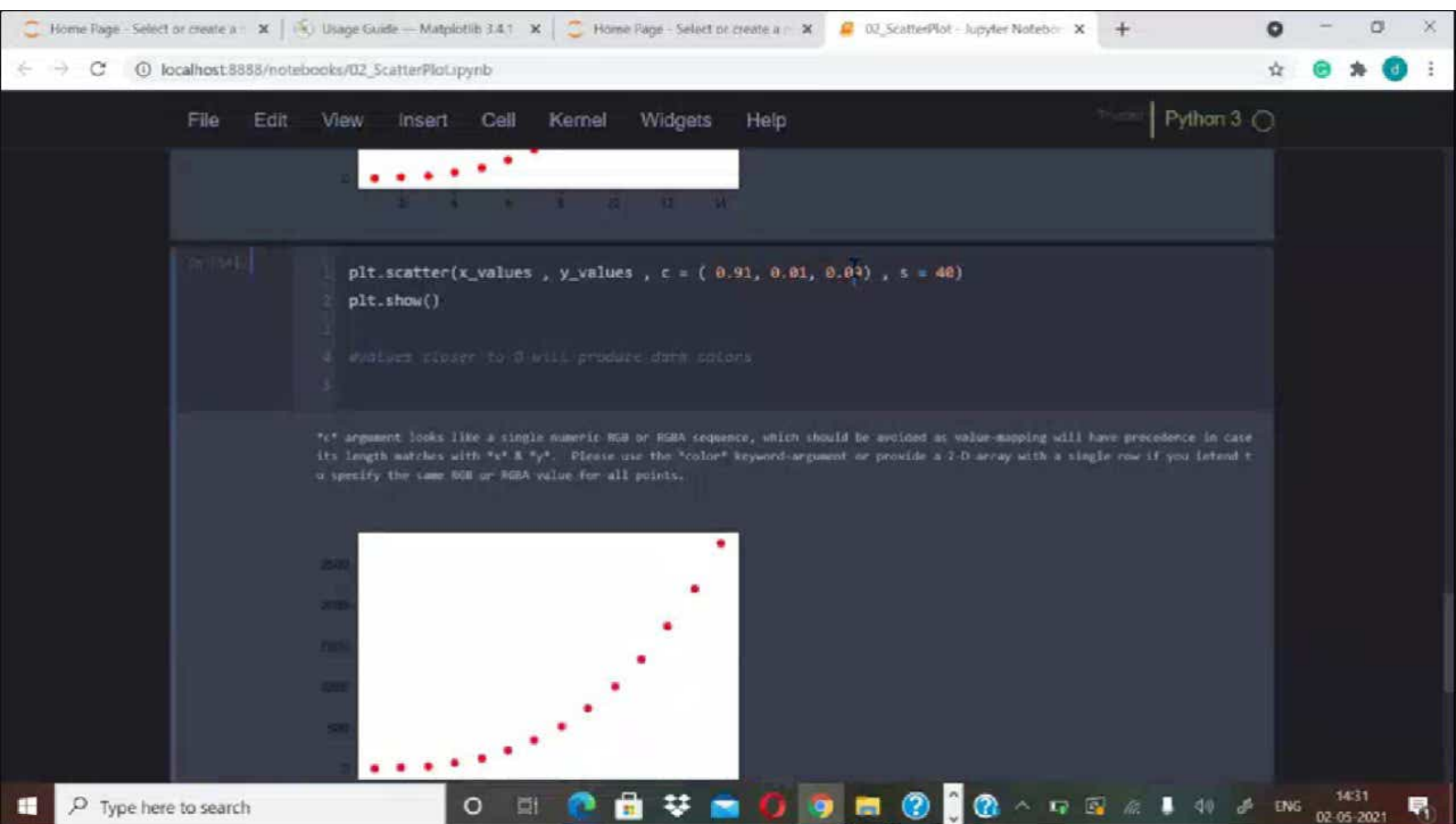
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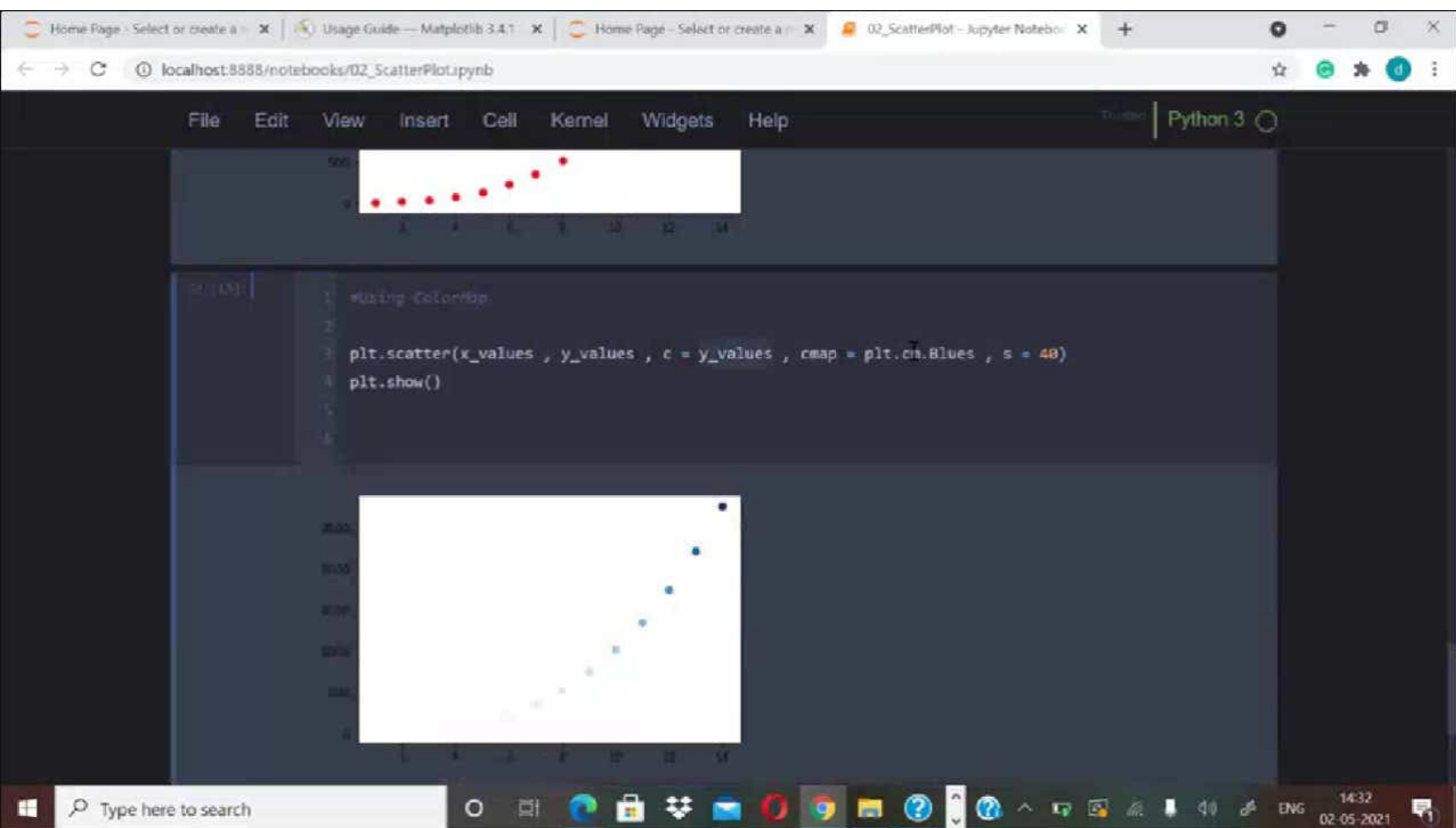


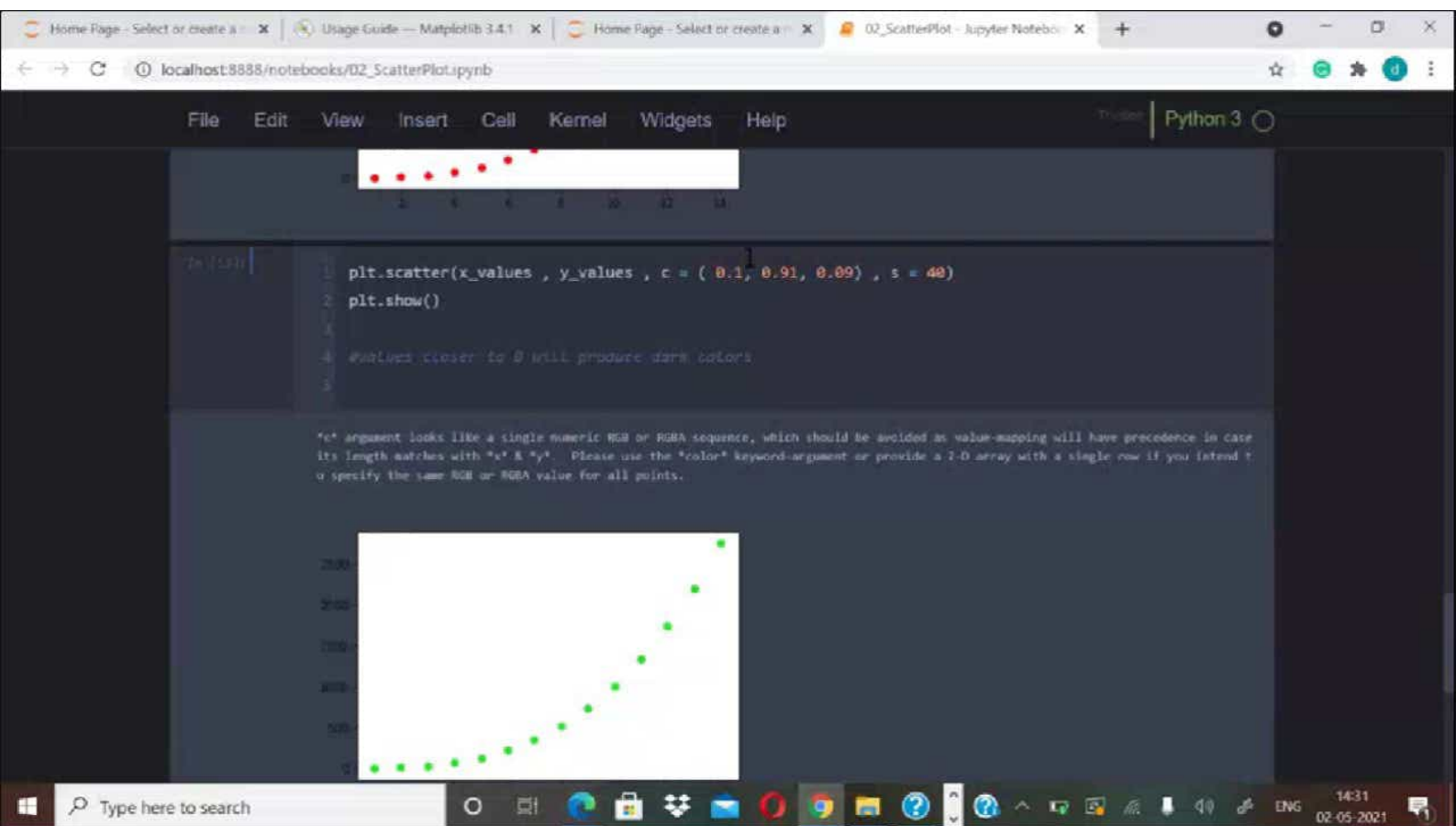


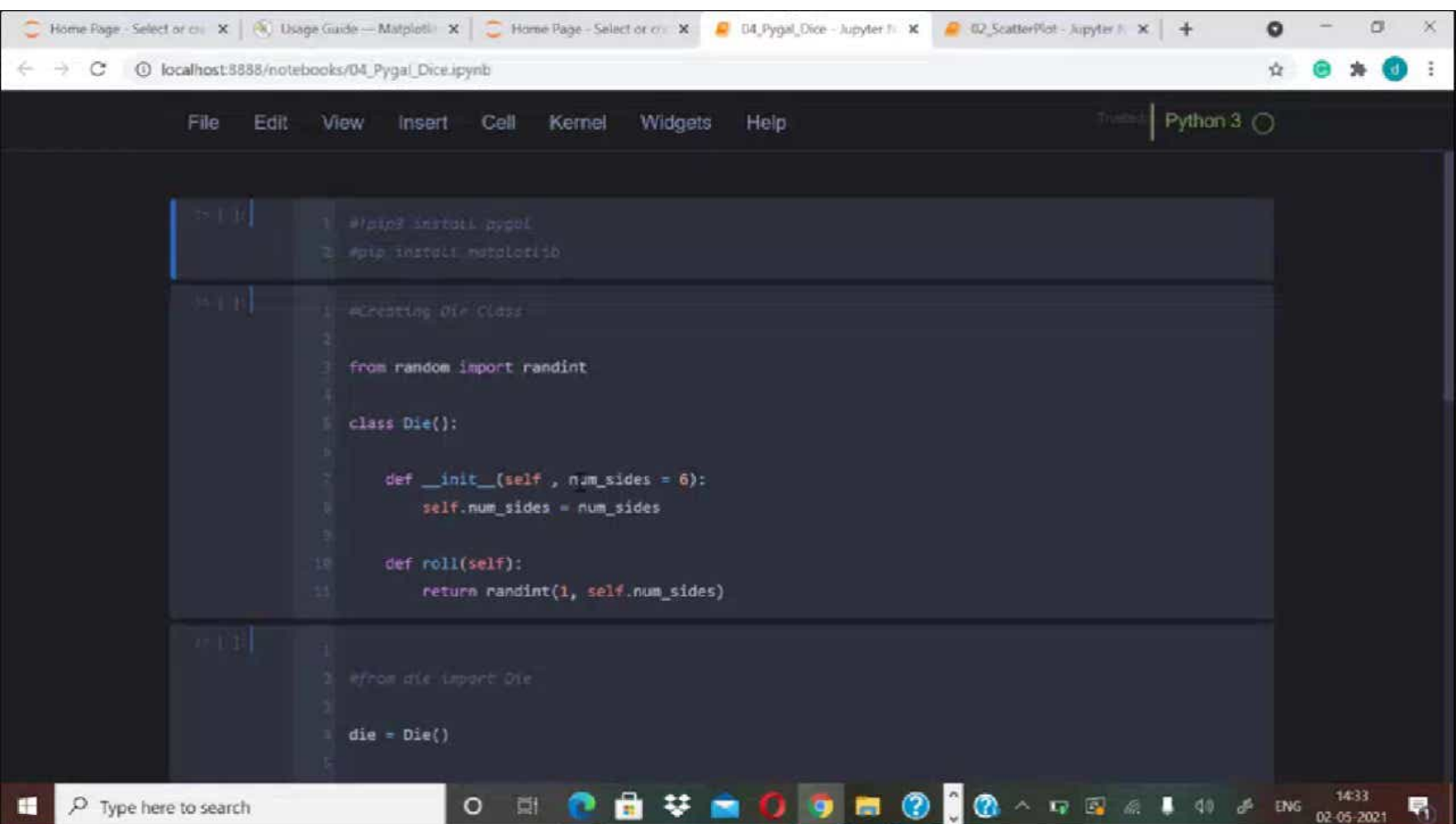


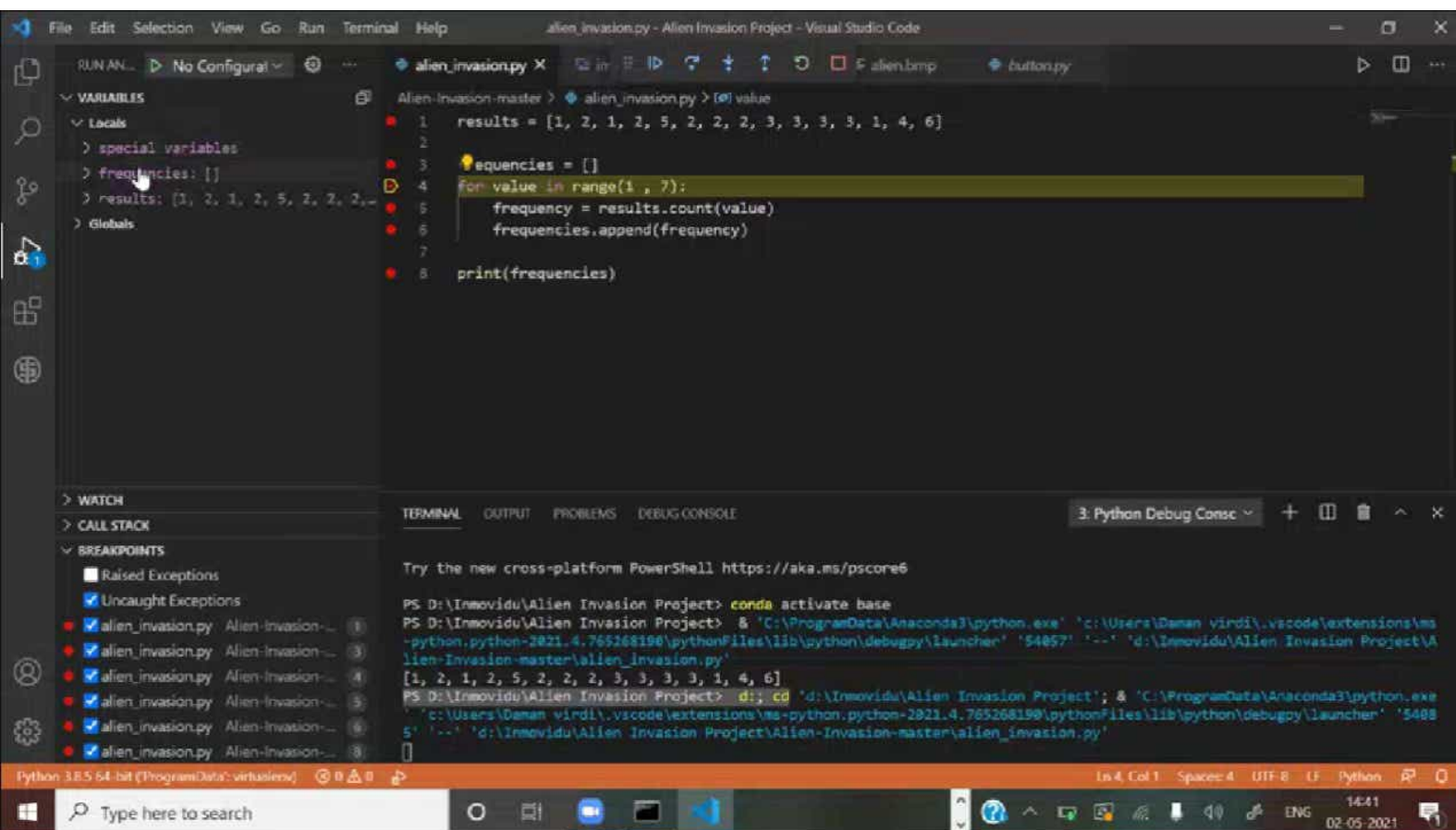












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localhost8888/notebooks/04_Pygal_Dice.ipynb

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```
5 class Die():
6
7     def __init__(self, num_sides = 6):
8         self.num_sides = num_sides
9
10    def roll(self):
11        return randint(1, self.num_sides)
```

```
In [1]:
1
2 #from die import Die
3
4 die = Die()
5
6 results = []
7
8 for roll_num in range(15):
9     result = die.roll()
10    results.append(result)
11
12 #analyze the results
13
14
```

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```
15: print(results)
16:
17: frequencies = []
18: for value in range(1, die.num_sides+1):
19:     frequency = results.count(value)
20:     frequencies.append(frequency)
21:
22: print(frequencies)
23:
```

[1, 6, 2, 3, 5, 6, 6, 2, 1, 1, 5, 4, 3, 1, 5]
[3, 2, 3, 1, 1, 3]

```
1: #making histogram
2: import pygal
3: hist = pygal.Bar()
4:
5: hist.add('Up', frequencies)
6: hist.render_to_file('abcqw.svg')
```

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