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Code

JupyterLab Python 3 (ipykernel)

[ ]:
```
#Control Statements in Python
```

[ ]:
```
#Exercise 1
Name your file: MonthNames.py
Write a program that reads an integer value between 1 and 12 from the user and prints output the corresponding month of the year.
An example run of the program (numbers in bold are typed in by the user)
Enter the month: 3
Month 3 is March
```

[1]:
```
def get_month(num):
    months = ["January", "February", "March", "April", "May", "June",
              "July", "August", "September", "October", "November", "December"]
    return months[num - 1]

num = int(input("Enter the month: "))
if 1 <= num <= 12:
    print(f"Month {num} is {get_month(num)}")
else:
    print("Invalid month number")
```

```
Enter the month:  2
Month 2 is February
```

[ ]:

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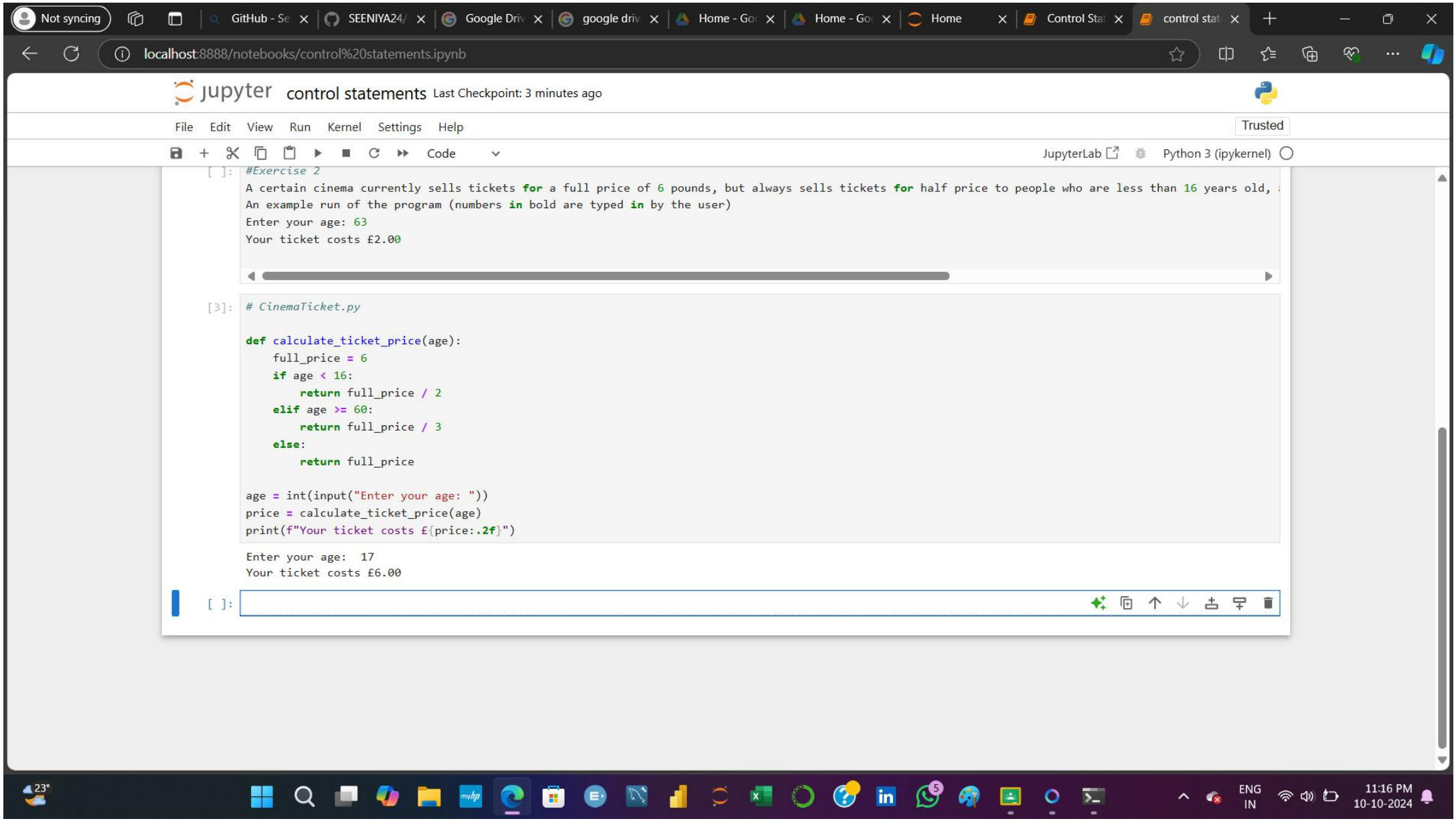
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Code
JupyterLab
Python 3 (ipykernel)
[ ]:
#Exercise 2
A certain cinema currently sells tickets for a full price of 6 pounds, but always sells tickets for half price to people who are less than 16 years old,
An example run of the program (numbers in bold are typed in by the user)
Enter your age: 63
Your ticket costs £2.00
[3]:
# CinemaTicket.py
def calculate_ticket_price(age):
full_price = 6
if age < 16:
return full_price / 2
elif age >= 60:
return full_price / 3
else:
return full_price
age = int(input("Enter your age: "))
price = calculate_ticket_price(age)
print(f"Your ticket costs £{price:.2f}")
Enter your age: 17
Your ticket costs £6.00
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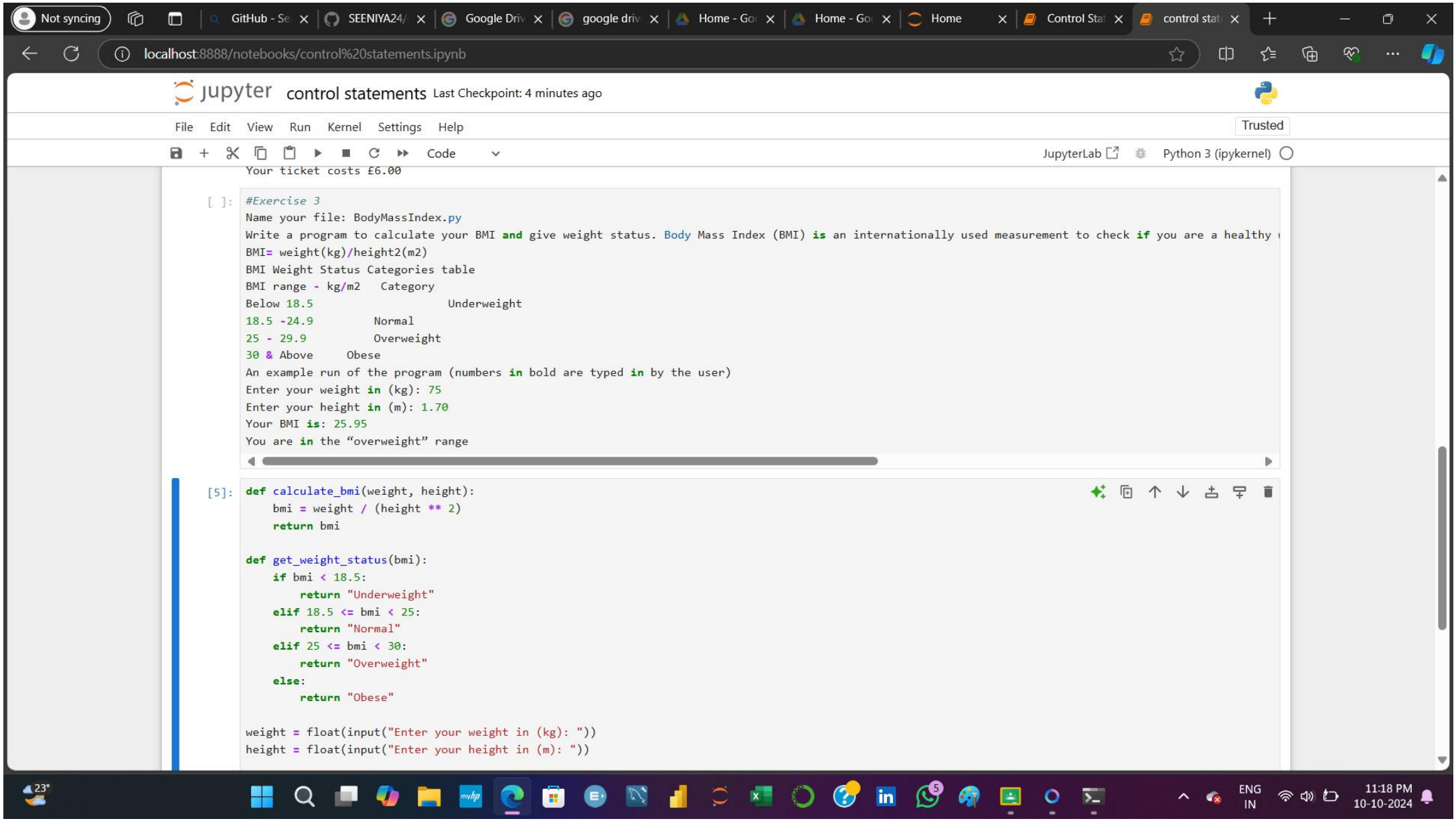
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Code
JupyterLab
Python 3 (ipykernel)
Your ticket costs £6.00
[ ]:
#Exercise 3
Name your file: BodyMassIndex.py
Write a program to calculate your BMI and give weight status. Body Mass Index (BMI) is an internationally used measurement to check if you are a healthy
BMI= weight(kg)/height2(m2)
BMI Weight Status Categories table
BMI range - kg/m2 Category
Below 18.5 Underweight
18.5 -24.9 Normal
25 - 29.9 Overweight
30 & Above Obese
An example run of the program (numbers in bold are typed in by the user)
Enter your weight in (kg): 75
Enter your height in (m): 1.70
Your BMI is: 25.95
You are in the "overweight" range
[5]:
def calculate_bmi(weight, height):
bmi = weight / (height ** 2)
return bmi
def get_weight_status(bmi):
if bmi < 18.5:
return "Underweight"
elif 18.5 <= bmi < 25:
return "Normal"
elif 25 <= bmi < 30:
return "Overweight"
else:
return "Obese"
weight = float(input("Enter your weight in (kg): "))
height = float(input("Enter your height in (m): "))
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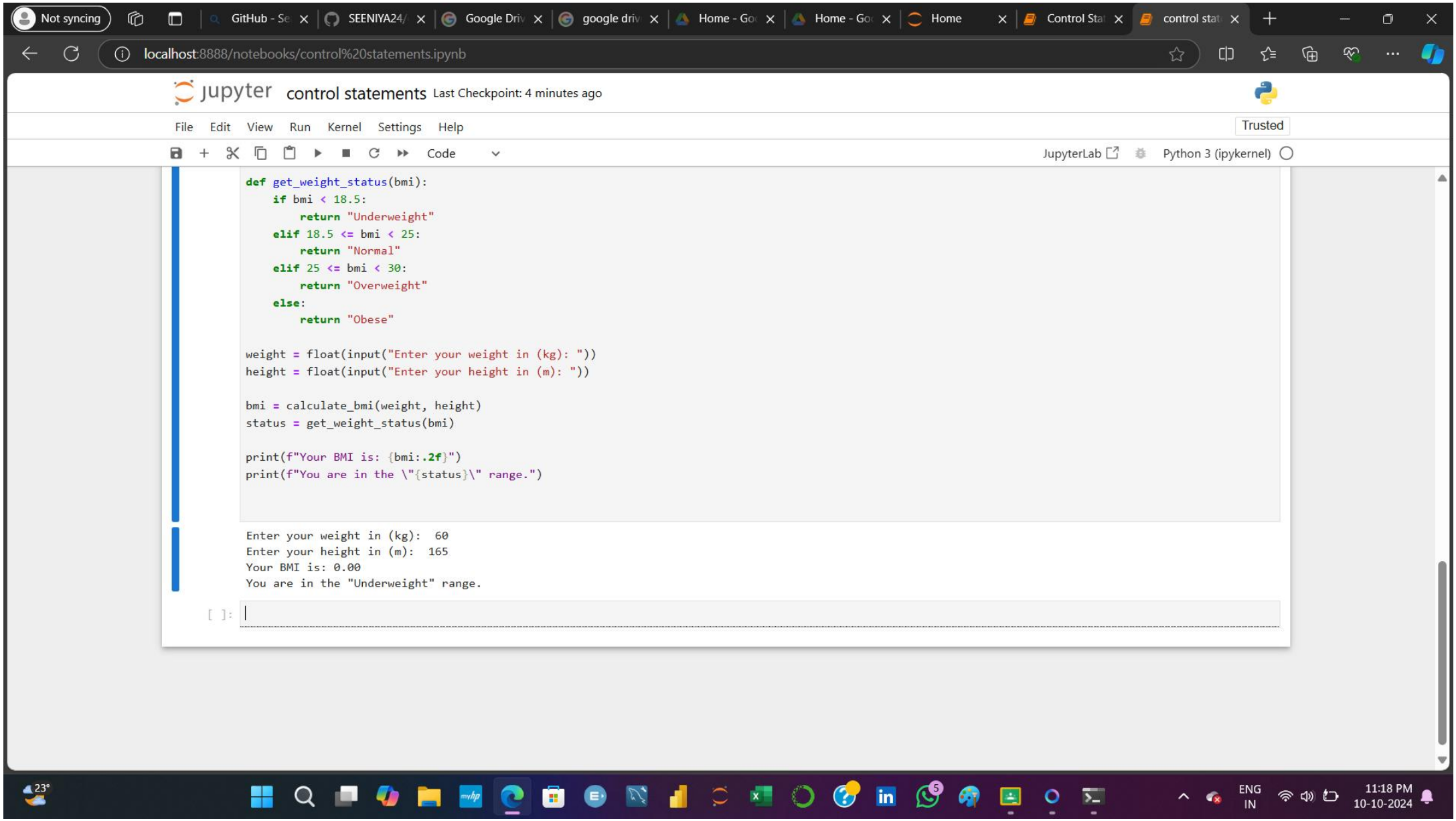
10-10-2024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Code
JupyterLab
Python 3 (ipykernel)
def get_weight_status(bmi):
if bmi < 18.5:
return "Underweight"
elif 18.5 <= bmi < 25:
return "Normal"
elif 25 <= bmi < 30:
return "Overweight"
else:
return "Obese"
weight = float(input("Enter your weight in (kg): "))
height = float(input("Enter your height in (m): "))
bmi = calculate_bmi(weight, height)
status = get_weight_status(bmi)
print(f"Your BMI is: {bmi:.2f}")
print(f"You are in the \"{status}\" range.")
Enter your weight in (kg): 60
Enter your height in (m): 165
Your BMI is: 0.00
You are in the "Underweight" range.
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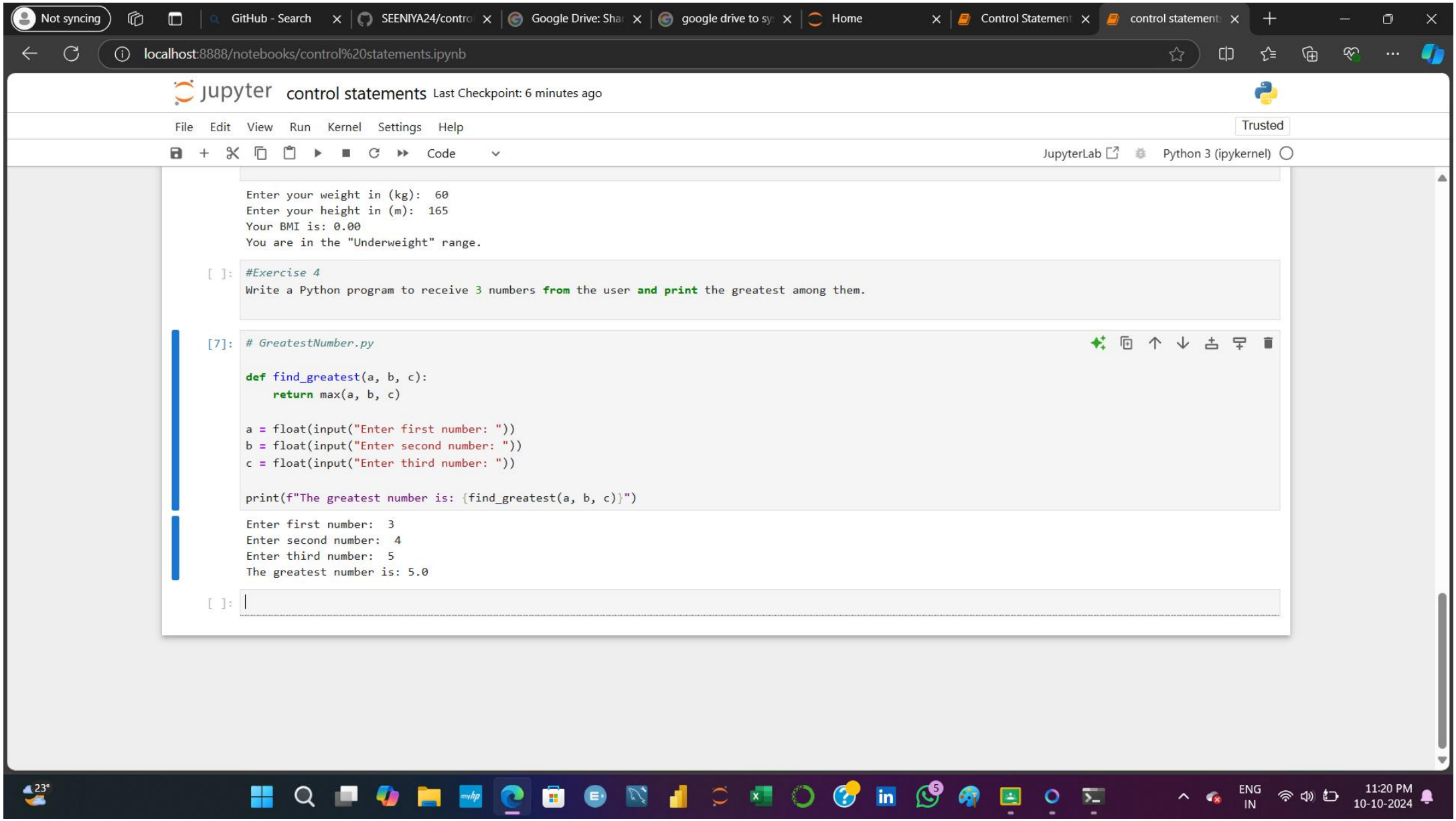
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Code
JupyterLab
Python 3 (ipykernel)
Enter your weight in (kg): 60
Enter your height in (m): 165
Your BMI is: 0.00
You are in the "Underweight" range.
[ ]:
#Exercise 4
Write a Python program to receive 3 numbers from the user and print the greatest among them.
[7]:
# GreatestNumber.py
def find_greatest(a, b, c):
return max(a, b, c)
a = float(input("Enter first number: "))
b = float(input("Enter second number: "))
c = float(input("Enter third number: "))
print(f"The greatest number is: {find_greatest(a, b, c)}")
Enter first number: 3
Enter second number: 4
Enter third number: 5
The greatest number is: 5.0
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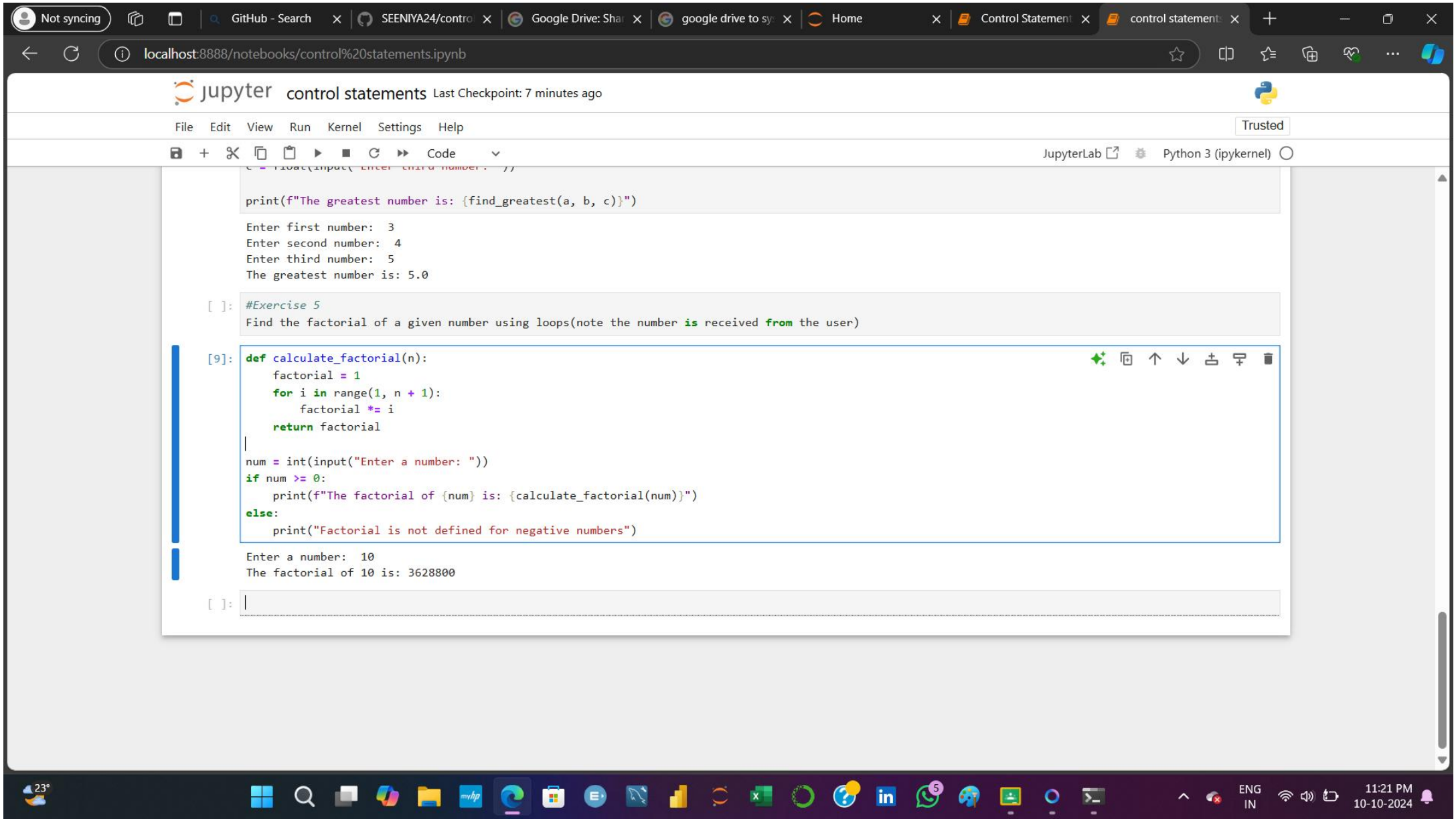
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Code
JupyterLab
Python 3 (ipykernel)
print(f"The greatest number is: {find_greatest(a, b, c)}")
Enter first number: 3
Enter second number: 4
Enter third number: 5
The greatest number is: 5.0
[ ]: #Exercise 5
Find the factorial of a given number using loops(note the number is received from the user)
[9]: def calculate_factorial(n):
factorial = 1
for i in range(1, n + 1):
factorial *= i
return factorial
num = int(input("Enter a number: "))
if num >= 0:
print(f"The factorial of {num} is: {calculate_factorial(num)}")
else:
print("Factorial is not defined for negative numbers")
Enter a number: 10
The factorial of 10 is: 3628800
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Code

JupyterLab Python 3 (ipykernel)

```
num = int(input("Enter a number: "))
if num >= 0:
    print(f"The factorial of {num} is: {calculate_factorial(num)}")
else:
    print("Factorial is not defined for negative numbers")
```

```
Enter a number:  10
The factorial of 10 is: 3628800
```

[ ]:

```
#Exercise 6
Reverse a number using while loop
```

[11]:

```
def reverse_number(n):
    reversed_num = 0
    while n > 0:
        digit = n % 10
        reversed_num = reversed_num * 10 + digit
        n //= 10
    return reversed_num

num = int(input("Enter a number: "))
print(f"The reverse of {num} is: {reverse_number(num)}")
```

```
Enter a number:  4
The reverse of 4 is: 4
```

[ ]:

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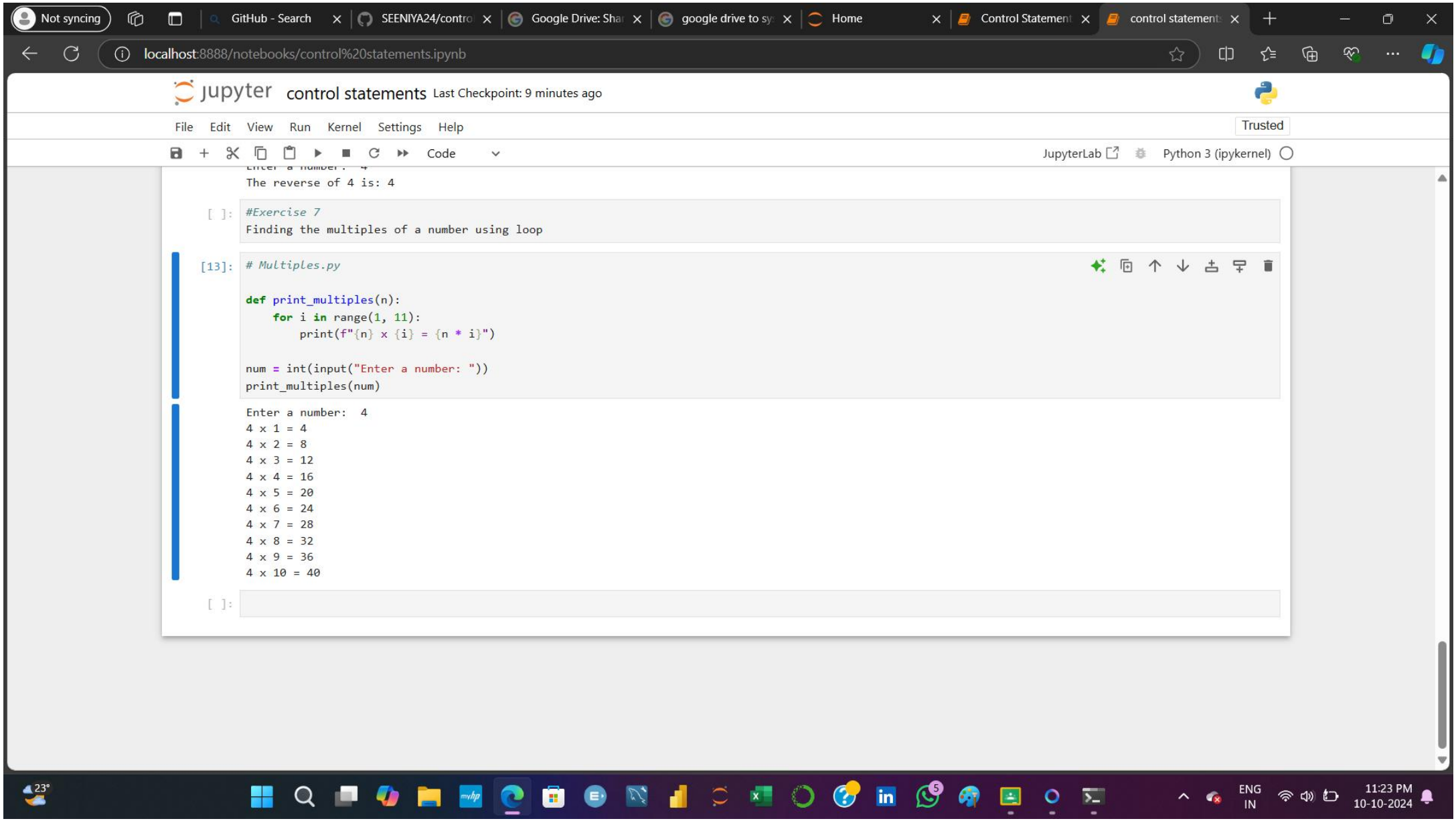
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Code
JupyterLab
Python 3 (ipykernel)
The reverse of 4 is: 4
[ ]:
#Exercise 7
Finding the multiples of a number using loop
[13]:
# Multiples.py
def print_multiples(n):
for i in range(1, 11):
print(f"{n} x {i} = {n * i}")
num = int(input("Enter a number: "))
print_multiples(num)
Enter a number: 4
4 x 1 = 4
4 x 2 = 8
4 x 3 = 12
4 x 4 = 16
4 x 5 = 20
4 x 6 = 24
4 x 7 = 28
4 x 8 = 32
4 x 9 = 36
4 x 10 = 40
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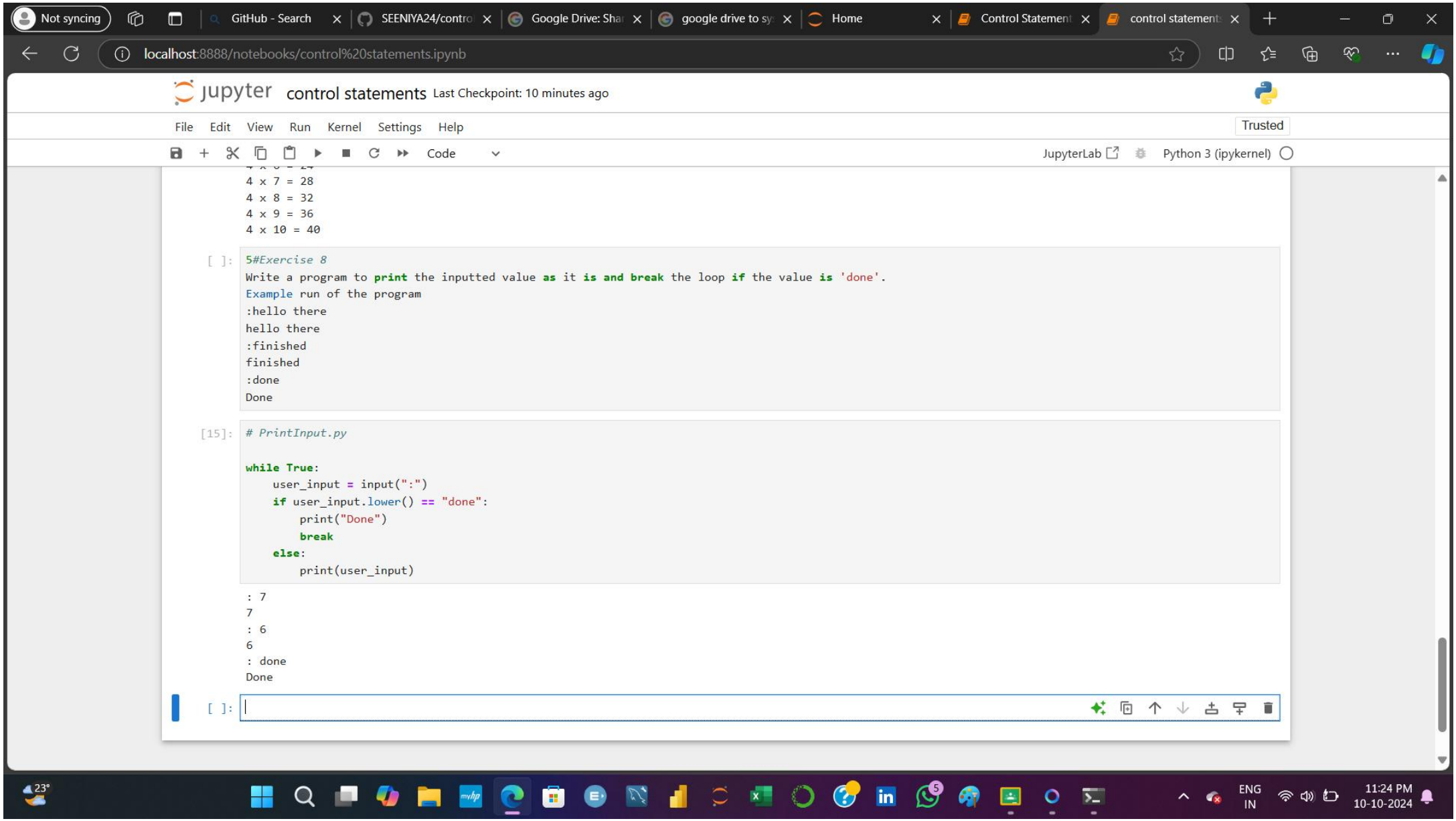
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Code
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Python 3 (ipykernel)
4 x 7 = 28
4 x 8 = 32
4 x 9 = 36
4 x 10 = 40
[ ]:
5#Exercise 8
Write a program to print the inputted value as it is and break the loop if the value is 'done'.
Example run of the program
:hello there
hello there
:finished
finished
:done
Done
[15]:
# PrintInput.py
while True:
user_input = input(":")
if user_input.lower() == "done":
print("Done")
break
else:
print(user_input)
: 7
7
: 6
6
: done
Done
[ ]:
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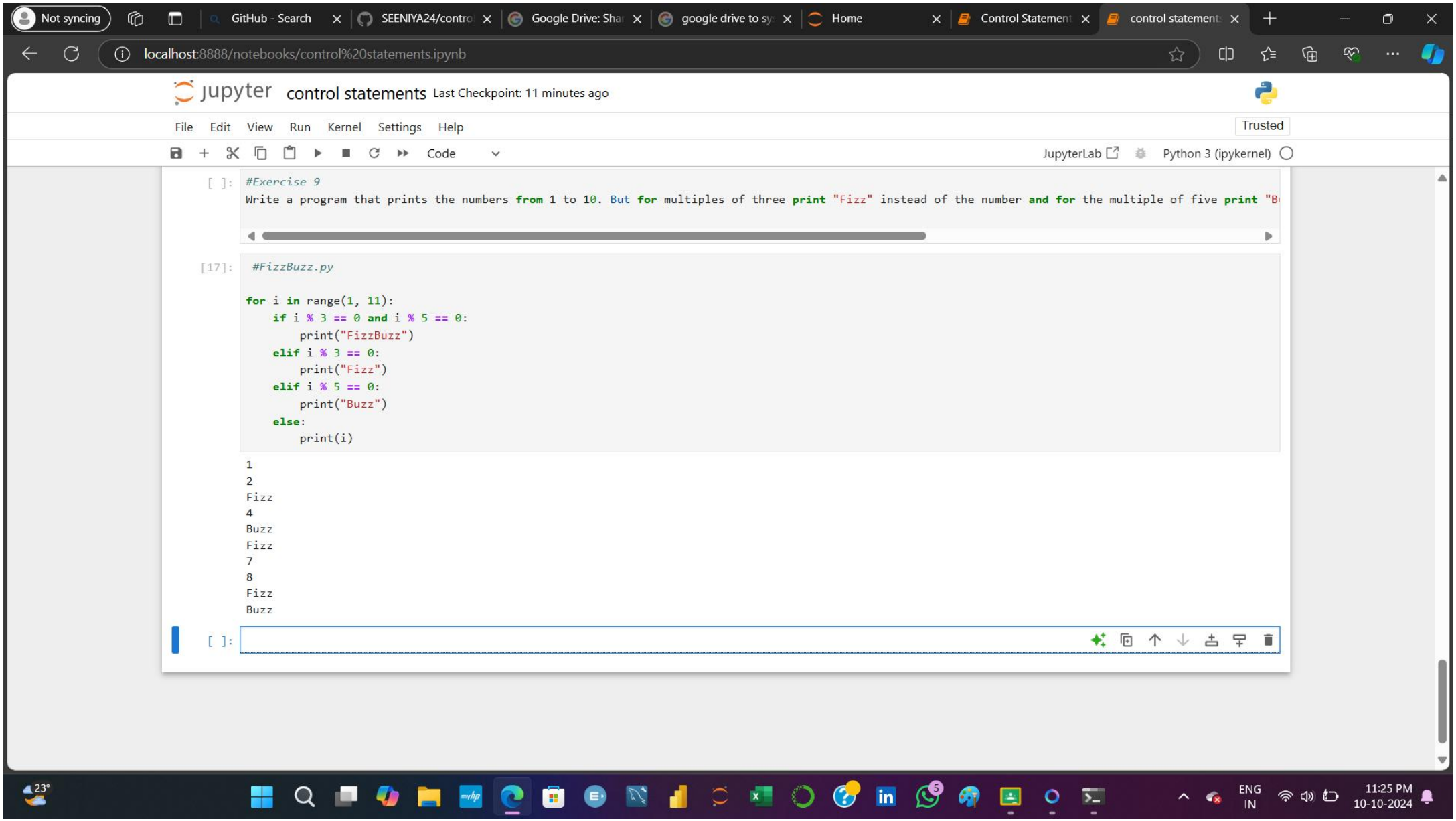
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Python 3 (ipykernel)
[ ]:
#Exercise 9
Write a program that prints the numbers from 1 to 10. But for multiples of three print "Fizz" instead of the number and for the multiple of five print "B
[17]:
#FizzBuzz.py
for i in range(1, 11):
if i % 3 == 0 and i % 5 == 0:
print("FizzBuzz")
elif i % 3 == 0:
print("Fizz")
elif i % 5 == 0:
print("Buzz")
else:
print(i)
1
2
Fizz
4
Buzz
Fizz
7
8
Fizz
Buzz
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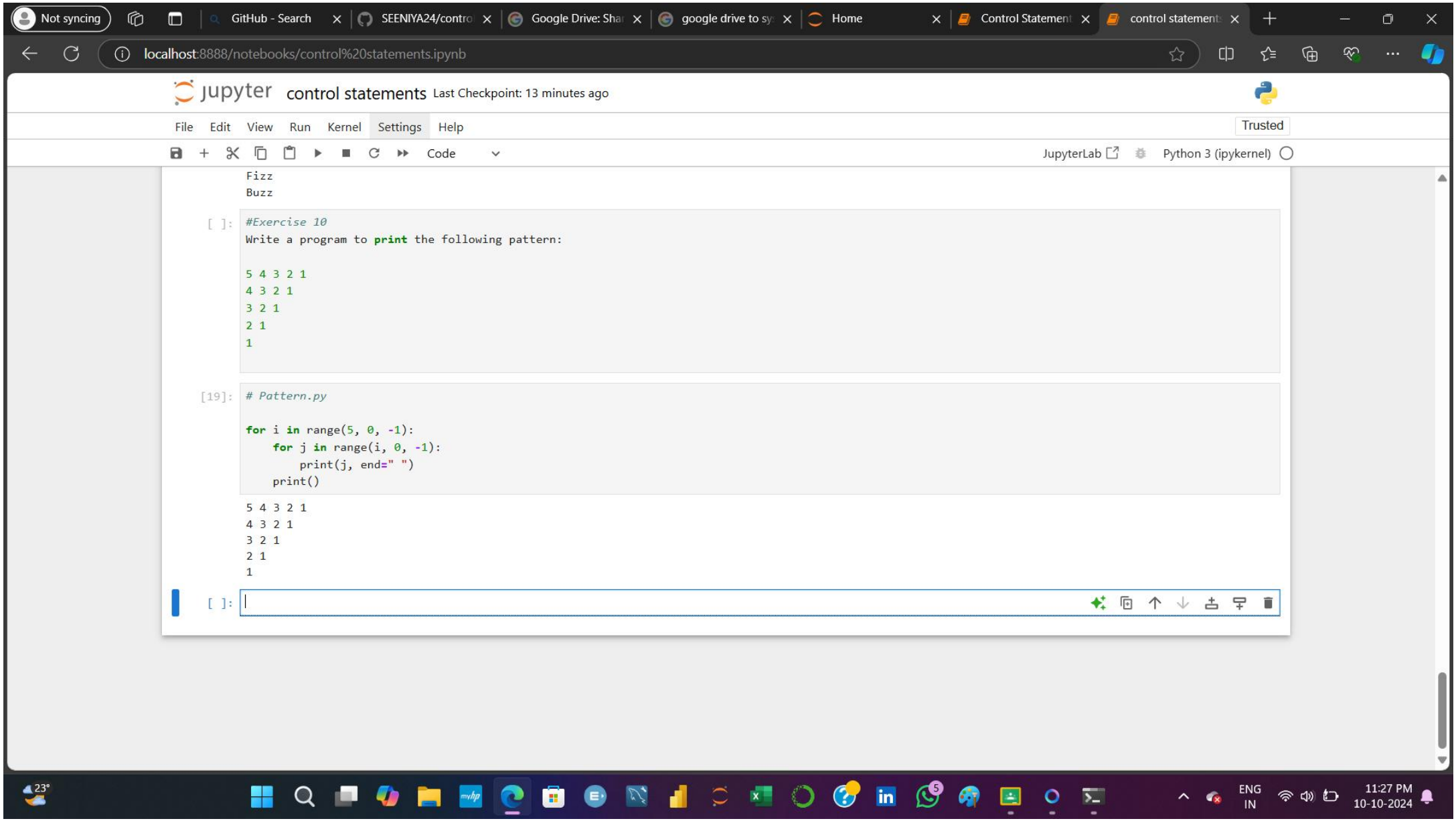
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Code
JupyterLab
Python 3 (ipykernel)
Fizz
Buzz
[ ]:
#Exercise 10
Write a program to print the following pattern:
5 4 3 2 1
4 3 2 1
3 2 1
2 1
1
[19]:
# Pattern.py
for i in range(5, 0, -1):
for j in range(i, 0, -1):
print(j, end=" ")
print()
5 4 3 2 1
4 3 2 1
3 2 1
2 1
1
[ ]:
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