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NEURAL NETWORKS AND DEEP LEARNING
ASSIGNMENT -1

1. **Write a python program for the following:**

   – Input the string “Python” as a list of characters from console, delete at least 2 characters, reverse the resultant string and print it.

   Sample input:

   python

   Sample output:

   ntyp

   – Take two numbers from user and perform at least 4 arithmetic operations on them.

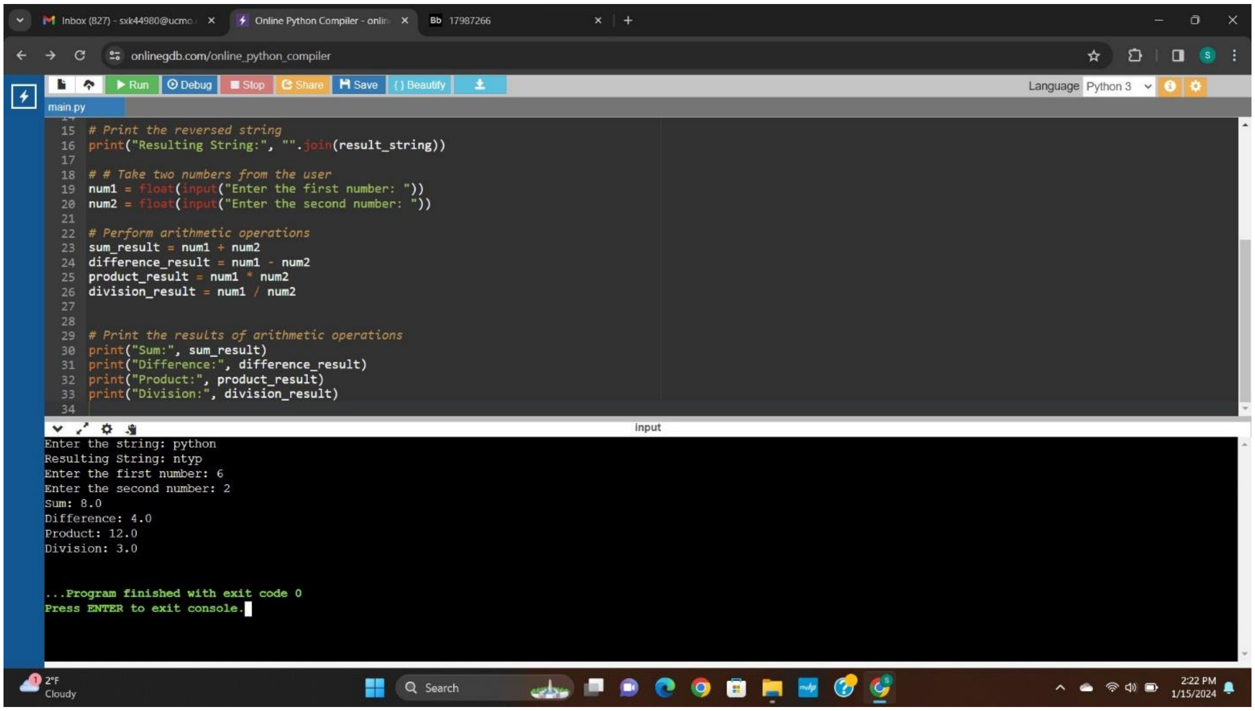
   Code:

```
# Input the string as a list of characters
import random;
input_string = list(input("Enter the string: "))

# Delete at least 2 characters
if len(input_string) >= 2:
   rand1=random.randint(0,len(input_string)-1)
   input_string.pop(rand1)
   rand2=random.randint(0,len(input_string)-1)
   input_string.pop(rand2)

# Reverse the resulting string
result_string = input_string[::-1]

# Print the reversed string
print("Resulting String:", "".join(result_string))

# # Take two numbers from the user
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

# Perform arithmetic operations
sum_result = num1 + num2
```

difference_result = num1 - num2
product_result = num1 * num2
division_result = num1 / num2

Print the results of arithmetic operations
print("Sum:", sum_result)
print("Difference:", difference_result)
print("Product:", product_result)
print("Division:", division_result)

Output:



```
# Print the reversed string
print("Resulting String:", "".join(result_string))

# # Take two numbers from the user
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

# Perform arithmetic operations
sum_result = num1 + num2
difference_result = num1 - num2
product_result = num1 * num2
division_result = num1 / num2


# Print the results of arithmetic operations
print("Sum:", sum_result)
print("Difference:", difference_result)
print("Product:", product_result)
print("Division:", division_result)
```

```
Enter the string: python
Resulting String: ntyp
Enter the first number: 6
Enter the second number: 2
Sum: 8.0
Difference: 4.0
Product: 12.0
Division: 3.0


...Program finished with exit code 0
Press ENTER to exit console.
```

2. **Write a program that accepts a sentence and replace each occurrence of 'python' with 'pythons'.**

Sample input:

I love playing with python

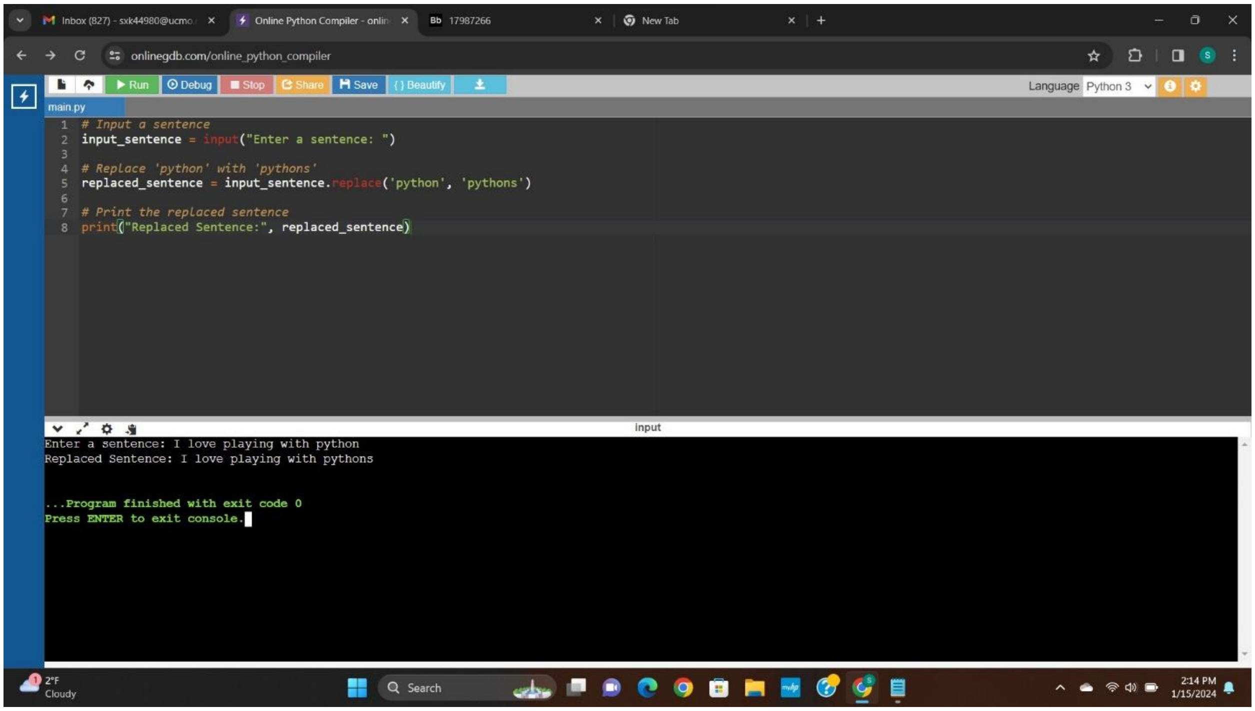
Sample output:

I love playing with pythons

Code:

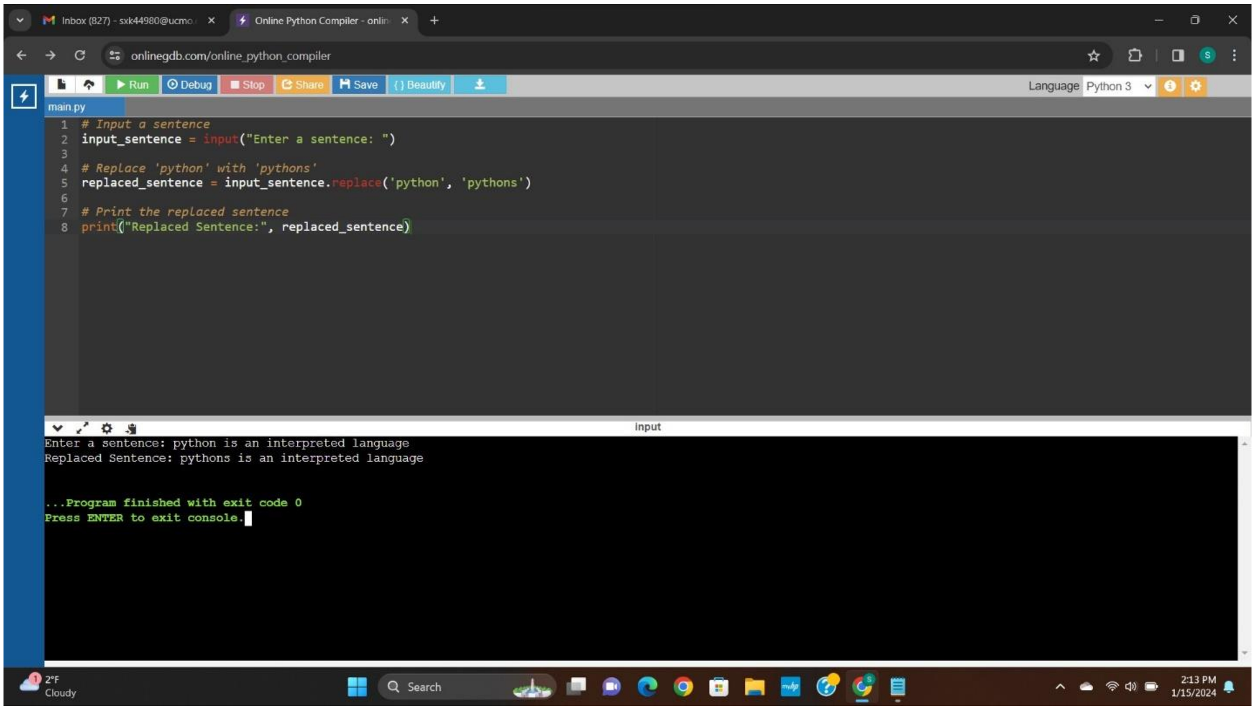
```
# Input a sentence
input_sentence = input("Enter a sentence: ")

# Replace 'python' with 'pythons'
replaced_sentence = input_sentence.replace('python', 'pythons')

# Print the replaced sentence
print("Replaced Sentence:", replaced_sentence)
```

Output:



```
# Input a sentence
input_sentence = input("Enter a sentence: ")

# Replace 'python' with 'pythons'
replaced_sentence = input_sentence.replace('python', 'pythons')

# Print the replaced sentence
print("Replaced Sentence:", replaced_sentence)
```

```
Enter a sentence: I love playing with python
Replaced Sentence: I love playing with pythons


...Program finished with exit code 0
Press ENTER to exit console.
```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main.py
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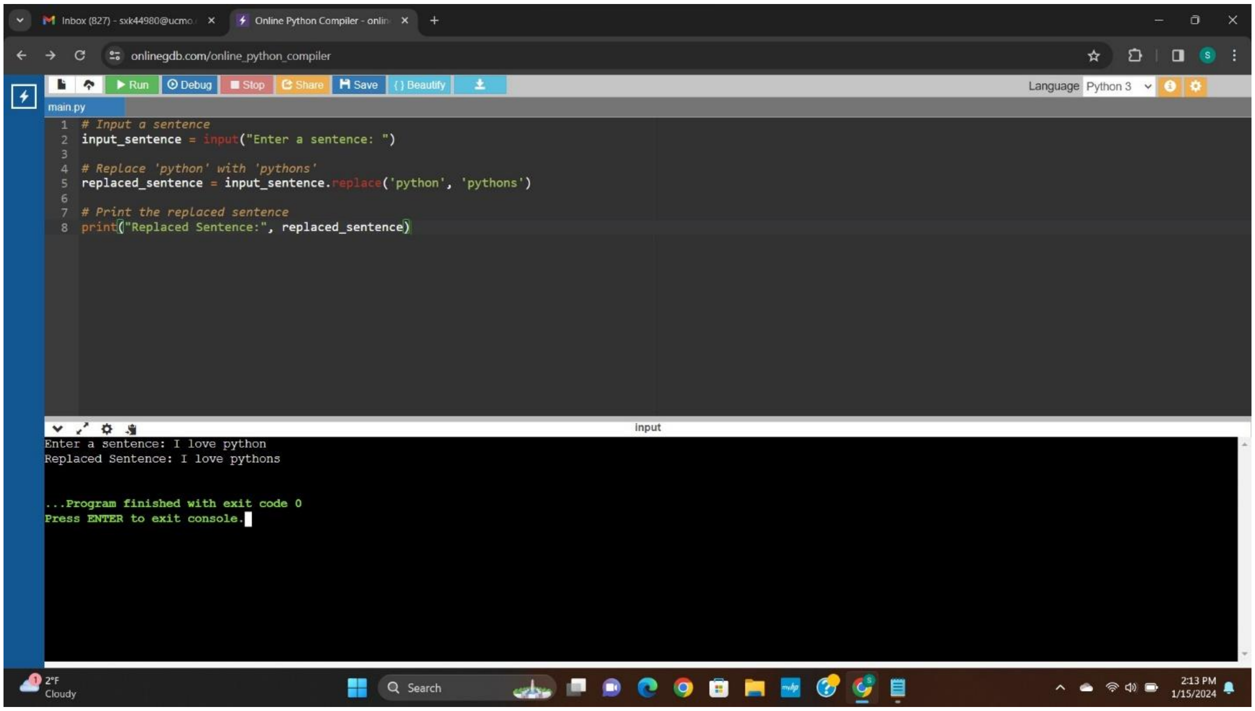
```python
# Input a sentence
input_sentence = input("Enter a sentence: ")

# Replace 'python' with 'pythons'
replaced_sentence = input_sentence.replace('python', 'pythons')

# Print the replaced sentence
print("Replaced Sentence:", replaced_sentence)
```

```
Enter a sentence: python is an interpreted language
Replaced Sentence: pythons is an interpreted language


...Program finished with exit code 0
Press ENTER to exit console.
```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```python
# Input a sentence
input_sentence = input("Enter a sentence: ")

# Replace 'python' with 'pythons'
replaced_sentence = input_sentence.replace('python', 'pythons')

# Print the replaced sentence
print("Replaced Sentence:", replaced_sentence)
```

```
Enter a sentence: I love python
Replaced Sentence: I love pythons


...Program finished with exit code 0
Press ENTER to exit console.
```

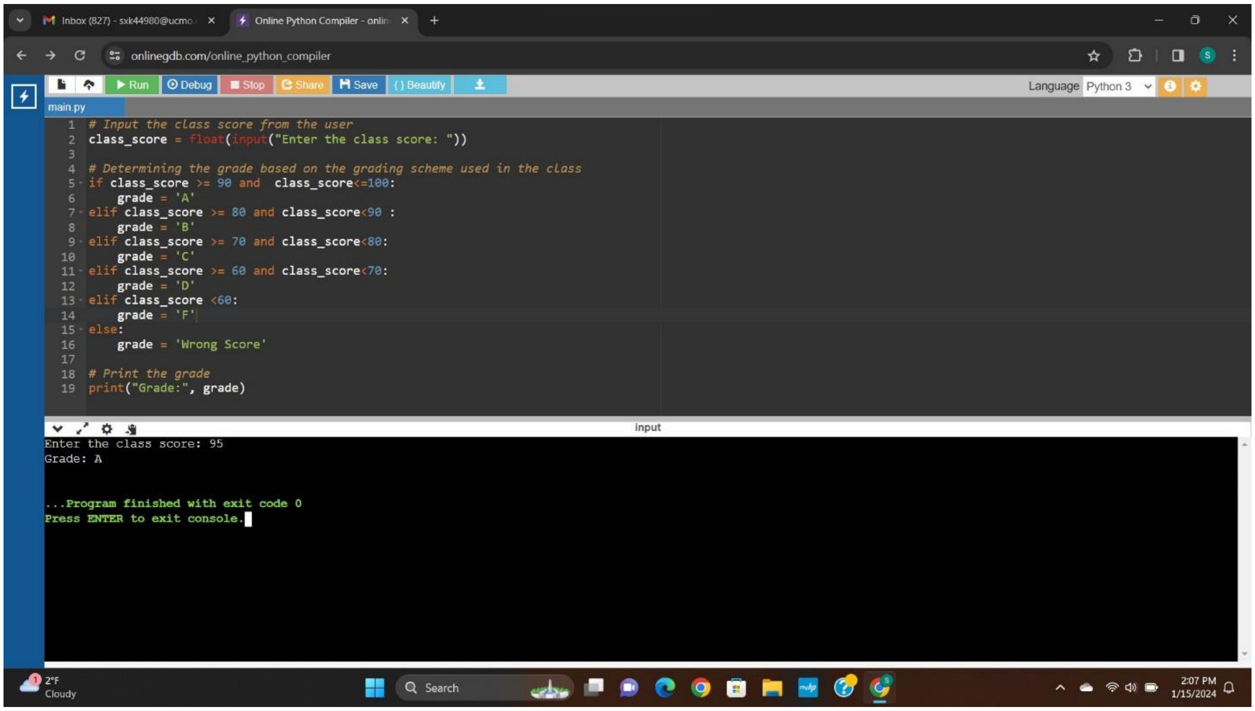
3. **Use the if statement conditions to write a program to print the letter grade based on an input class score. Use the grading scheme we are using in this class.**

Code:

```
# Input the class score from the user
class_score = float(input("Enter the class score: "))

# Determining the grade based on the grading scheme used in the class
if class_score >= 90 and  class_score<=100:
    grade = 'A'
elif class_score >= 80 and class_score<90 :
    grade = 'B'
elif class_score >= 70 and class_score<80:
    grade = 'C'
elif class_score >= 60 and class_score<70:
    grade = 'D'
elif class_score <60:
    grade = 'F'
else:
    grade = 'Wrong Score'
# Print the grade
print("Grade:", grade)
```

Output:



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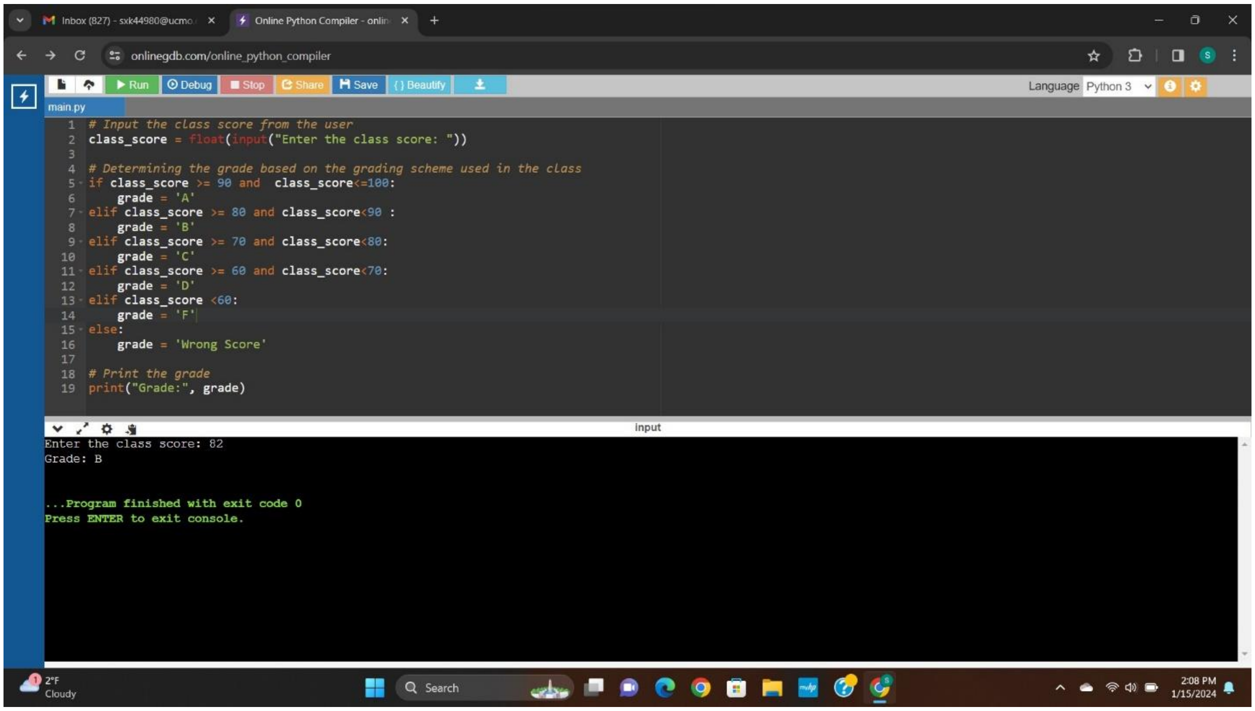
```
# Input the class score from the user
class_score = float(input("Enter the class score: "))

# Determining the grade based on the grading scheme used in the class
if class_score >= 90 and  class_score<=100:
    grade = 'A'
elif class_score >= 80 and class_score<90 :
    grade = 'B'
elif class_score >= 70 and class_score<80:
    grade = 'C'
elif class_score >= 60 and class_score<70:
    grade = 'D'
elif class_score <60:
    grade = 'F'
else:
    grade = 'Wrong Score'

# Print the grade
print("Grade:", grade)
```

```
Enter the class score: 95
Grade: A


...Program finished with exit code 0
Press ENTER to exit console.
```



```
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class_score = float(input("Enter the class score: "))

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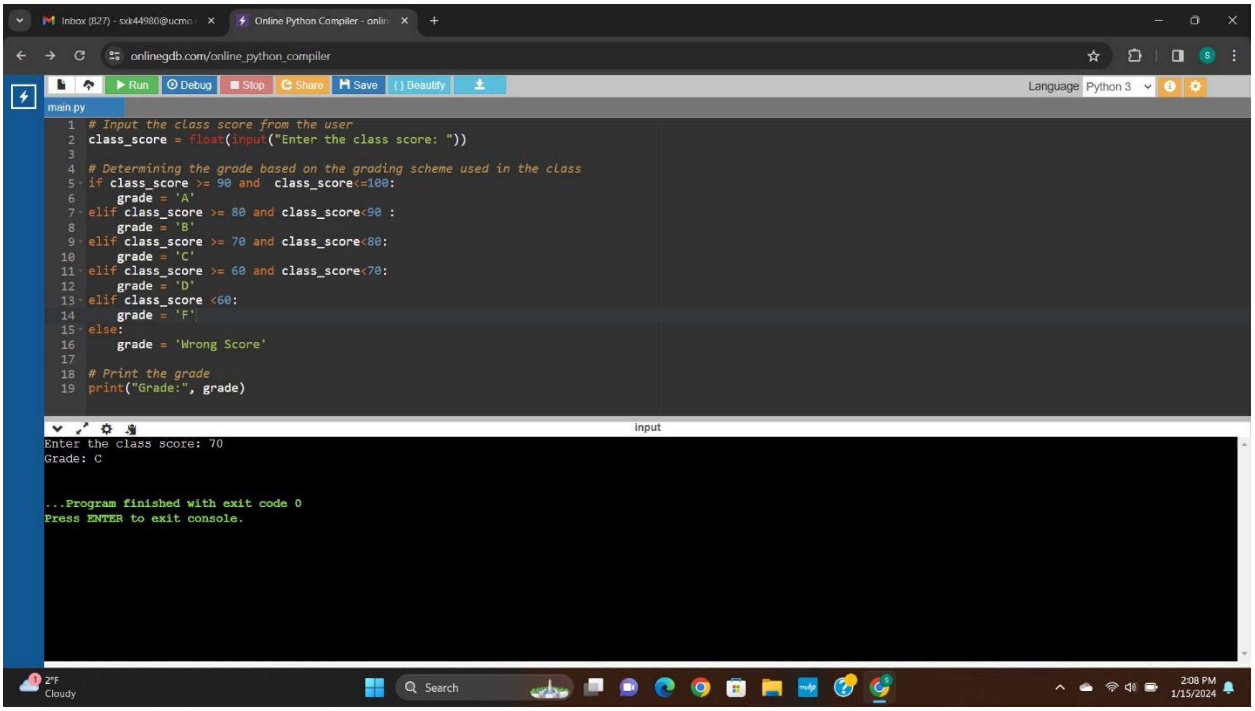
    grade = 'B'
elif class_score >= 70 and class_score<80:
    grade = 'C'
elif class_score >= 60 and class_score<70:
    grade = 'D'
elif class_score <60:
    grade = 'F'
else:
    grade = 'Wrong Score'

# Print the grade
print("Grade:", grade)
```

```
Enter the class score: 82
Grade: B


...Program finished with exit code 0
Press ENTER to exit console.
```



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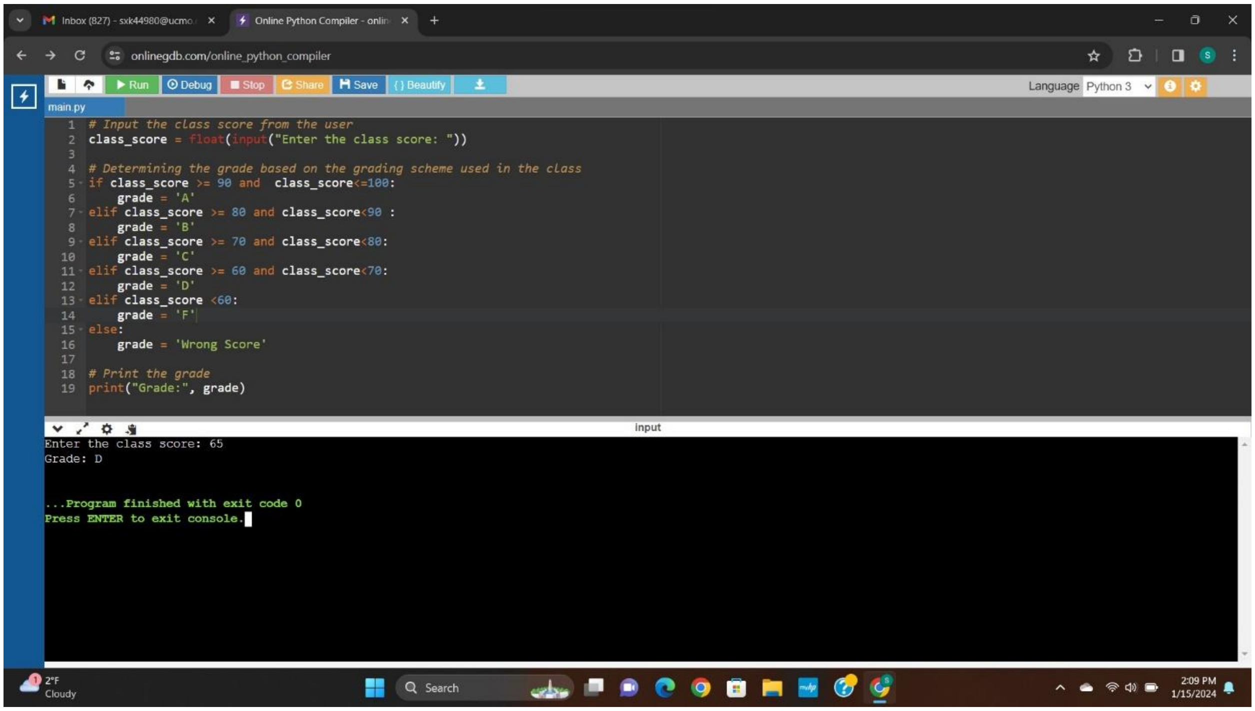
elif class_score >= 70 and class_score<80:
    grade = 'C'
elif class_score >= 60 and class_score<70:
    grade = 'D'
elif class_score <60:
    grade = 'F'
else:
    grade = 'Wrong Score'

# Print the grade
print("Grade:", grade)
```

```
Enter the class score: 70
Grade: C


...Program finished with exit code 0
Press ENTER to exit console.
```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    grade = 'C'
elif class_score >= 60 and class_score<70:
    grade = 'D'
elif class_score <60:
    grade = 'F'
else:
    grade = 'Wrong Score'

# Print the grade
print("Grade:", grade)
```

```
Enter the class score: 65
Grade: D


...Program finished with exit code 0
Press ENTER to exit console.
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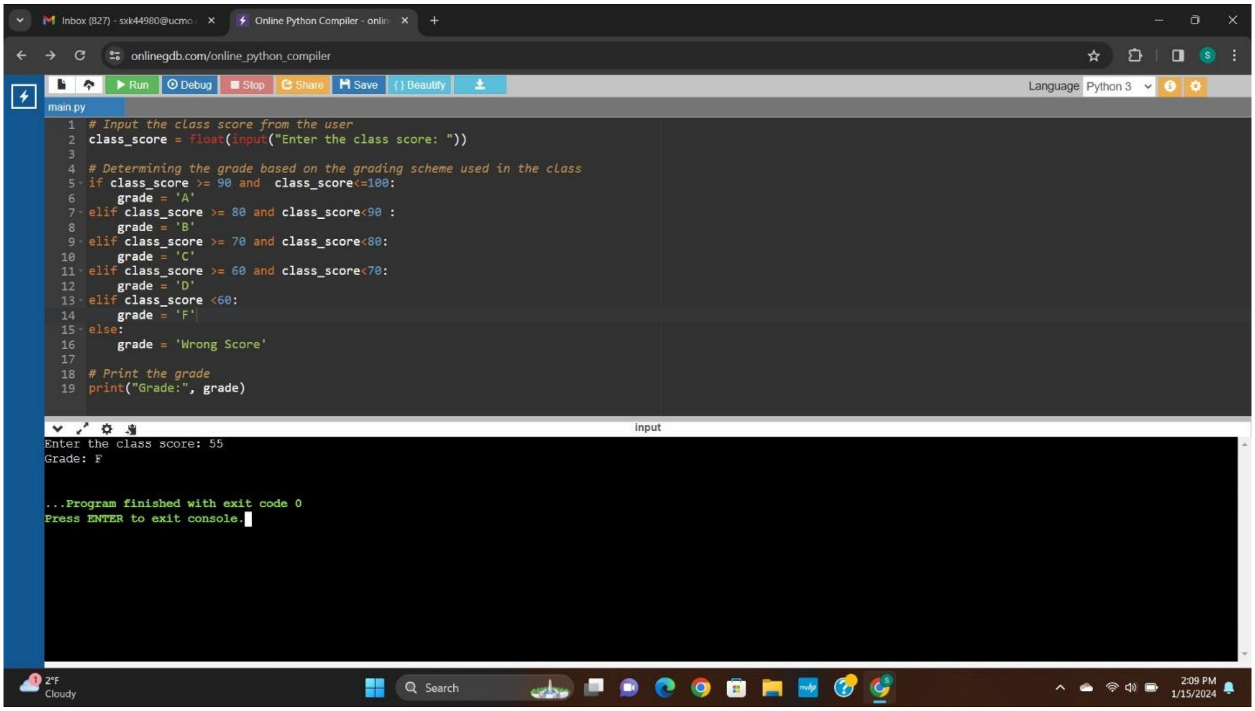
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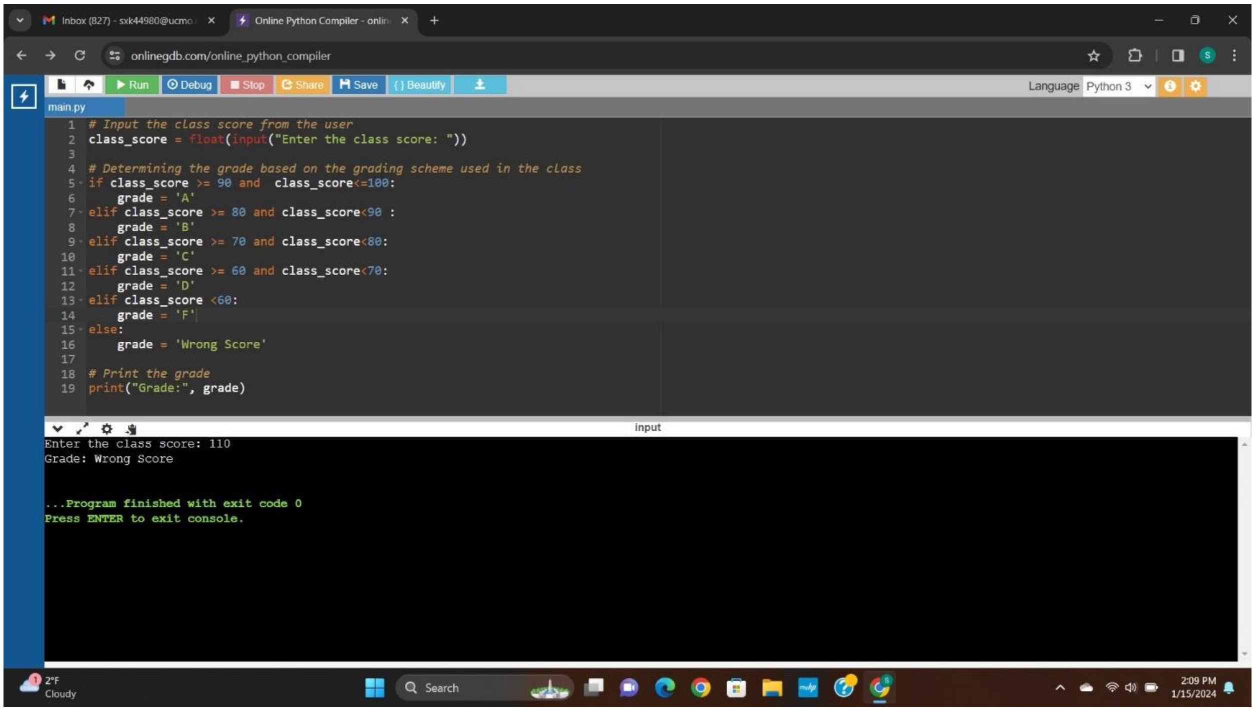
elif class_score >= 70 and class_score<80:
    grade = 'C'
elif class_score >= 60 and class_score<70:
    grade = 'D'
elif class_score <60:
    grade = 'F'
else:
    grade = 'Wrong Score'

# Print the grade
print("Grade:", grade)
```

```
Enter the class score: 55
Grade: F


...Program finished with exit code 0
Press ENTER to exit console.
```



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elif class_score >= 70 and class_score<80:
    grade = 'C'
elif class_score >= 60 and class_score<70:
    grade = 'D'
elif class_score <60:
    grade = 'F'
else:
    grade = 'Wrong Score'

# Print the grade
print("Grade:", grade)
```

```
Enter the class score: 110
Grade: Wrong Score


...Program finished with exit code 0
Press ENTER to exit console.
```

GithubLink:

https://github.com/konthamsaiyashwanthreddy/Neural_AT1

Video Link:

https://github.com/konthamsaiyashwanthreddy/Neural_AT1/blob/main/video_assgn1.mp4