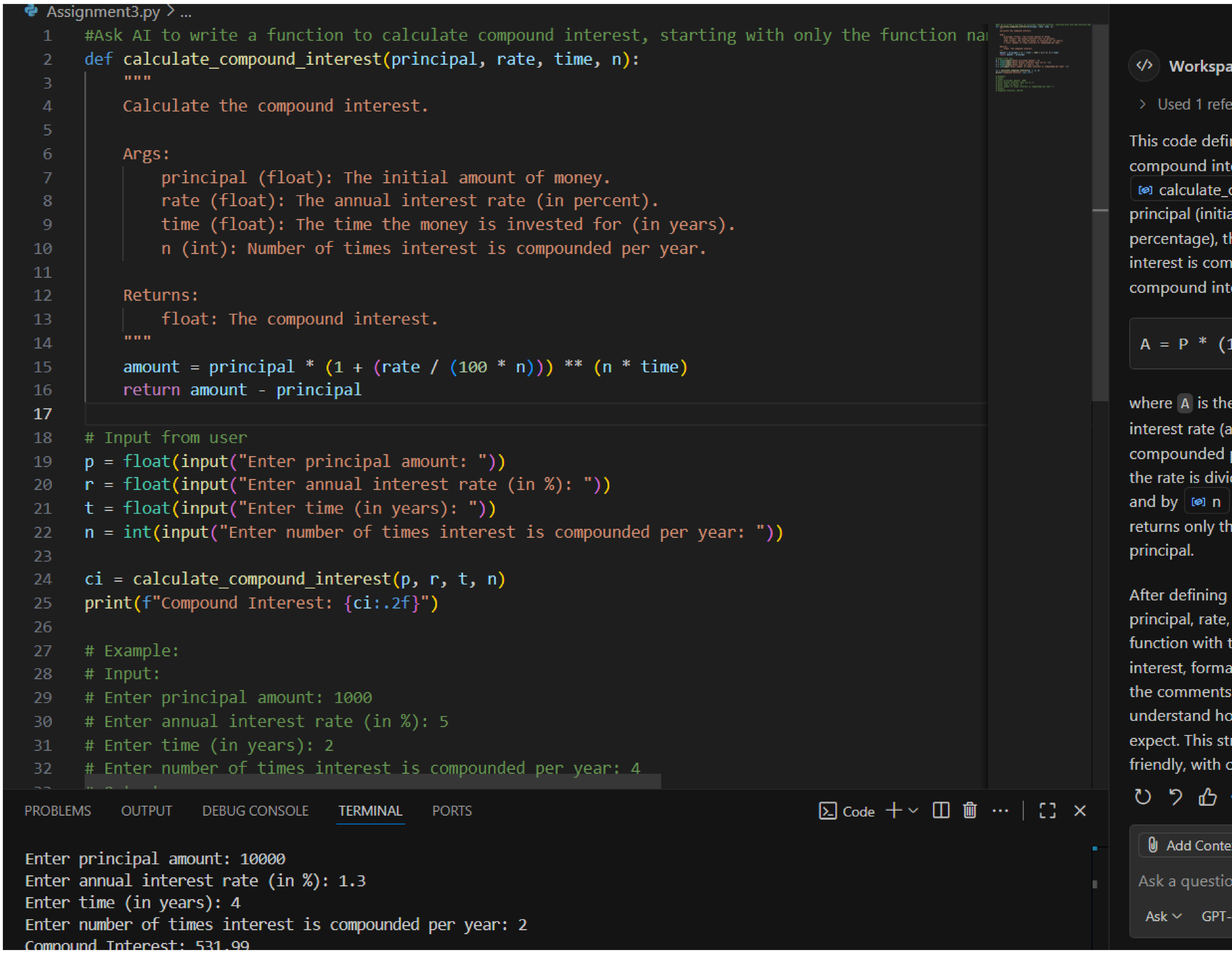
Name – janagani Varshitha

Roll-2403a54085

Batch -3(Ds)

Task assignment 1



```python
#Ask AI to write a function to calculate compound interest, starting with only the function na
def calculate_compound_interest(principal, rate, time, n):
    """
    Calculate the compound interest.

    Args:
        principal (float): The initial amount of money.
        rate (float): The annual interest rate (in percent).
        time (float): The time the money is invested for (in years).
        n (int): Number of times interest is compounded per year.

    Returns:
        float: The compound interest.
    """
    amount = principal * (1 + (rate / (100 * n))) ** (n * time)
    return amount - principal

# Input from user
p = float(input("Enter principal amount: "))
r = float(input("Enter annual interest rate (in %): "))
t = float(input("Enter time (in years): "))
n = int(input("Enter number of times interest is compounded per year: "))

ci = calculate_compound_interest(p, r, t, n)
print(f"Compound Interest: {ci:.2f}")

# Example:
# Input:
# Enter principal amount: 1000
# Enter annual interest rate (in %): 5
# Enter time (in years): 2
# Enter number of times interest is compounded per year: 4
```

```
Enter principal amount: 10000
Enter annual interest rate (in %): 1.3
Enter time (in years): 4
Enter number of times interest is compounded per year: 2
Compound Interest: 531.99
```

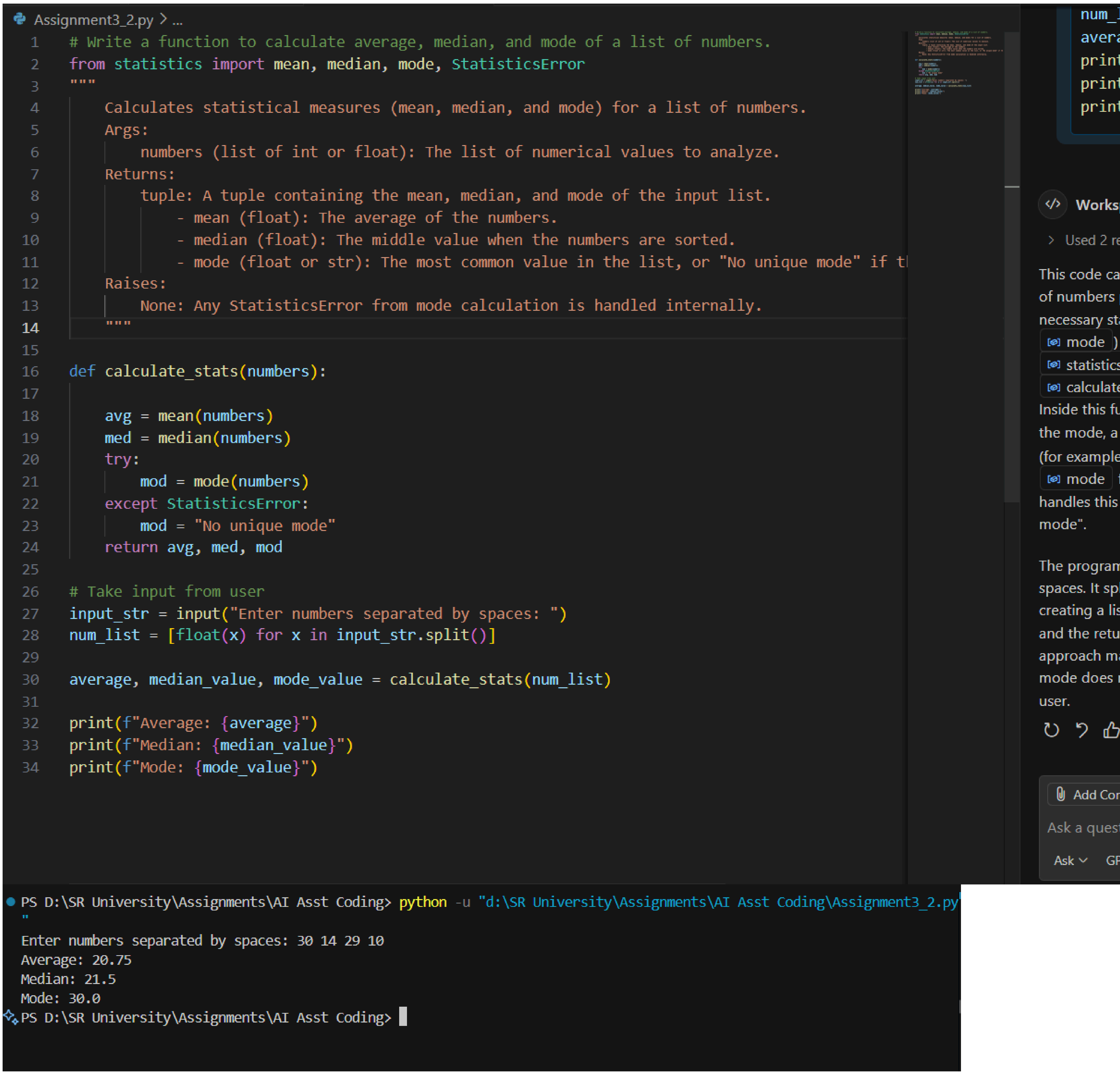
This code defi
compound int
calculate_c
principal (initi
percentage), t
interest is com
compound int

```
A = P * (1
```

where A is the
interest rate (a
compounded
the rate is divi
and by n
returns only th
principal.

After defining
principal, rate,
function with t
interest, forma
the comments
understand ho
expect. This st
friendly, with c

~~Task Assignment – 02:~~



```python
# Write a function to calculate average, median, and mode of a list of numbers.
from statistics import mean, median, mode, StatisticsError
"""
    Calculates statistical measures (mean, median, and mode) for a list of numbers.
    Args:
        numbers (list of int or float): The list of numerical values to analyze.
    Returns:
        tuple: A tuple containing the mean, median, and mode of the input list.
            - mean (float): The average of the numbers.
            - median (float): The middle value when the numbers are sorted.
            - mode (float or str): The most common value in the list, or "No unique mode" if t
    Raises:
        None: Any StatisticsError from mode calculation is handled internally.
    """

def calculate_stats(numbers):

    avg = mean(numbers)
    med = median(numbers)
    try:
        mod = mode(numbers)
    except StatisticsError:
        mod = "No unique mode"
    return avg, med, mod

# Take input from user
input_str = input("Enter numbers separated by spaces: ")
num_list = [float(x) for x in input_str.split()]

average, median_value, mode_value = calculate_stats(num_list)

print(f"Average: {average}")
print(f"Median: {median_value}")
print(f"Mode: {mode_value}")
```

```
num_
avera
print
print
print
```

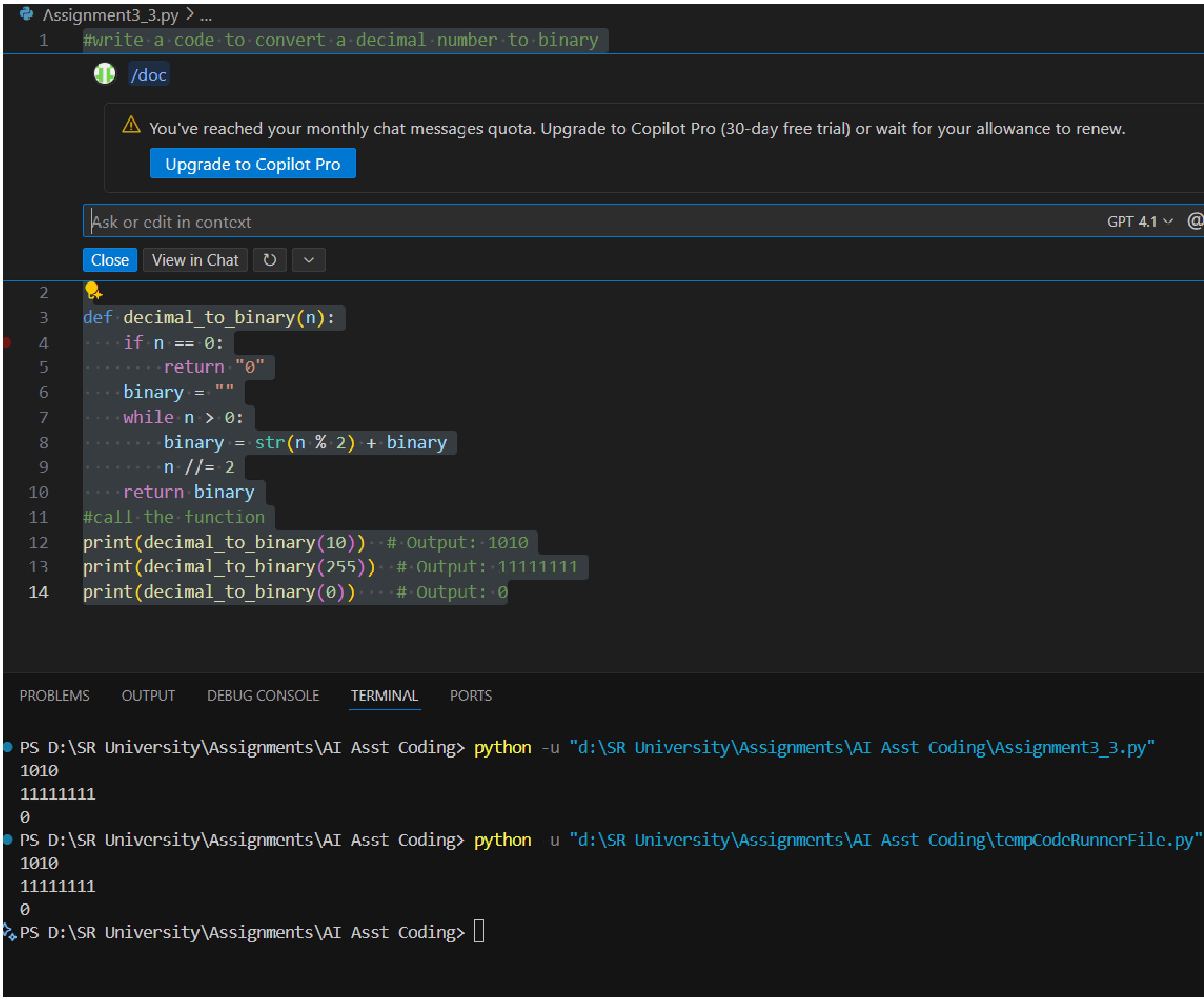
This code ca
of numbers
necessary st
mode)
statistics
calculate
Inside this fu
the mode, a
(for example
mode
handles this
mode".

The program
spaces. It sp
creating a lis
and the retu
approach ma
mode does
user.

```
PS D:\SR University\Assignments\AI Asst Coding> python -u "d:\SR University\Assignments\AI Asst Coding\Assignment3_2.py"

Enter numbers separated by spaces: 30 14 29 10
Average: 20.75
Median: 21.5
Mode: 30.0
PS D:\SR University\Assignments\AI Asst Coding> 
```

Task Assignment – 03:



```python
#write a code to convert a decimal number to binary
```

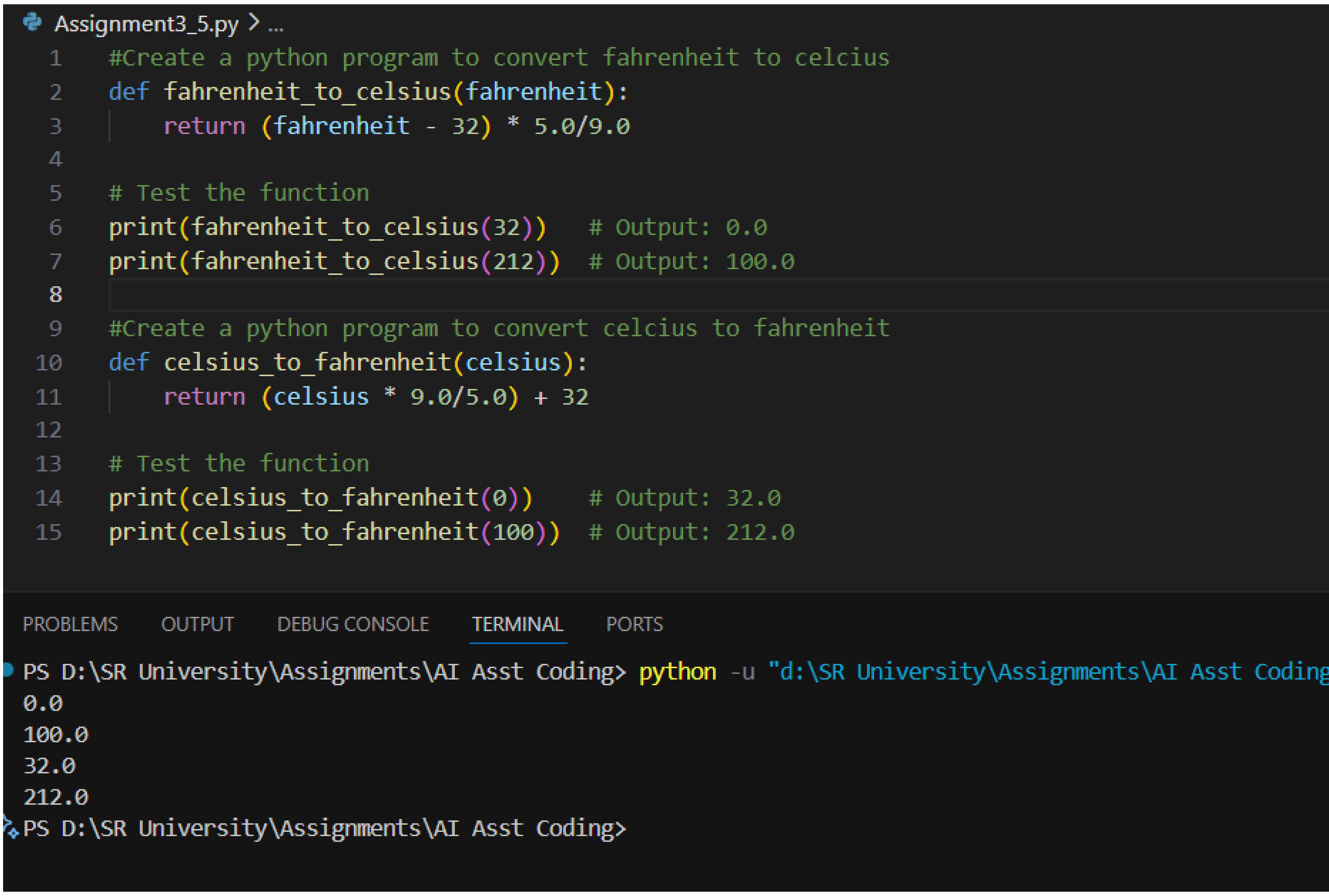
You've reached your monthly chat messages quota. Upgrade to Copilot Pro (30-day free trial) or wait for your allowance to renew.

```python

def decimal_to_binary(n):
    if n == 0:
        return "0"
    binary = ""
    while n > 0:
        binary = str(n % 2) + binary
        n //= 2
    return binary
#call the function
print(decimal_to_binary(10))  # Output: 1010
print(decimal_to_binary(255))  # Output: 11111111
print(decimal_to_binary(0))    # Output: 0
```

```
PS D:\SR University\Assignments\AI Asst Coding> python -u "d:\SR University\Assignments\AI Asst Coding\Assignment3_3.py"
1010
11111111
0
PS D:\SR University\Assignments\AI Asst Coding> python -u "d:\SR University\Assignments\AI Asst Coding\tempCodeRunnerFile.py"
1010
11111111
0
PS D:\SR University\Assignments\AI Asst Coding> 
```

Tast Assignment – 04:



```python
#Create a python program to convert fahrenheit to celcius
def fahrenheit_to_celsius(fahrenheit):
    return (fahrenheit - 32) * 5.0/9.0

# Test the function
print(fahrenheit_to_celsius(32))   # Output: 0.0
print(fahrenheit_to_celsius(212))  # Output: 100.0

#Create a python program to convert celcius to fahrenheit
def celsius_to_fahrenheit(celsius):
    return (celsius * 9.0/5.0) + 32

# Test the function
print(celsius_to_fahrenheit(0))    # Output: 32.0
print(celsius_to_fahrenheit(100))  # Output: 212.0
```

```
PS D:\SR University\Assignments\AI Asst Coding> python -u "d:\SR University\Assignments\AI Asst Coding
0.0
100.0
32.0
212.0
PS D:\SR University\Assignments\AI Asst Coding>
```