

Week 4

```
#1:
def int_value(num):
    # takes in an integer as parameter and returns true if the parameter is in
    given range
    if num in range(0, 101):
        return True
    else:
        return False
test_numbers = [45,90, 786,100,900]
for value in test_numbers:
    result = int_value(value)
    print(result)
```

True

True

False

True

False

```
#2:
def case_checker(string):
    """This function takes in a string and counts the number of uppercase and
    lowercase letters in it."""
    uppercase_no= 0
    lowercase_no = 0
    for char in string:
        if char.isupper(): #checks if current character is uppercase using
        .isupper() method
            uppercase_no += 1
        elif char.islower():
            lowercase_no += 1
    print(f"Uppercase letters: {uppercase_no}")
    print(f"Lowercase letters: {lowercase_no}")

# Testing the function
case_checker("MEDical DIAGnosiS")
```

Uppercase letters: 7

Lowercase letters: 9

```
#4:
def remove_char(str):
    """This function takes in a string as a parameter and removes the last
    character of the string if its length is longer than 1."""
    if len(str) > 1:
        return str[:-1]
    else:
        return "no changes"

string = input("Enter a word: ")
result = remove_char(string)
print(result)
```

Enter a word: assignment

assignmen

```
#5:
def cel_to_fht(celsius):
    """Converts Celsius to Fahrenheit."""
    fahrenheit = celsius * (9 / 5) + 32
    return fahrenheit

def fht_to_cel(fahrenheit):
    """Converts Fahrenheit to Celsius."""
    celsius = (fahrenheit - 32) * 5 / 9
    return celsius

# Convert Celsius to Fahrenheit
celsius_temp = float(input("Enter temperature in Celsius: "))
print(f"{celsius_temp}C is equivalent to {cel_to_fht(celsius_temp):.2f}F")

# Convert Fahrenheit to Celsius
fahrenheit_temp = float(input("Enter temperature in Fahrenheit: "))
print(f"{fahrenheit_temp}F is equivalent to {fht_to_cel(fahrenheit_temp):.2f}C")#
2f formats result to 2 decimal places
```

Enter temperature in Celsius: 56

56.0C is equivalent to 132.80F

Enter temperature in Fahrenheit: 90

90.0F is equivalent to 32.22C

```
#6:
def to_fahrenheit(temp):
    """converts celsius to fahrenheit."""
    celsius = float(temp[:-1]) # Extract the numeric part
    fahrenheit = celsius * 9 / 5 + 32 # Convert to Fahrenheit
    return f"{fahrenheit:.2f}F"

given_temp = input("Enter your temperature in Celsius: ")
if given_temp[-1].lower() == 'c': # Check if input ends with 'C' or 'c'
    print(f"{given_temp} is equivalent to {to_fahrenheit(given_temp)}")
else:
    print("Invalid input! Please enter a temperature ending with 'C'.")
```

Enter your temperature in Celsius: 89

Invalid input! Please enter a temperature ending with 'C'.

Enter your temperature in Celsius: 78c

78c is equivalent to 172.40F

```
#7:
from statistics import mean

def read_temperatures():
    """
    Reads 6 temperatures from the user, calculates and displays the maximum,
    minimum,
    and mean of these temperatures.
    """
    temperatures = []
    for i in range(6):
        temp = float(input(f"Enter temperature {i+1}: "))
        temperatures.append(temp)
```

```

    max_temp = max(temperatures)
    min_temp = min(temperatures)
    mean_temp = mean(temperatures)

    return max_temp, min_temp, mean_temp

max_temp, min_temp, mean_temp = read_temperatures()

print(f"The max temperature is: {max_temp},\nThe min temperature is: {
    min_temp},\nThe mean temperature is: {mean_temp}")

```

Enter temperature 1: 89

Enter temperature 2: 87

Enter temperature 3: 65

Enter temperature 4: 54

Enter temperature 5: 43

Enter temperature 6: 32

The max temperature is: 89.0,

The min temperature is: 32.0,

The mean temperature is: 61.666666666666664

```

#8:
from statistics import mean

def read_temperatures():
    """
    Reads temperatures from the user until an empty input is given,
    then calculates and displays the maximum, minimum, and mean of these
    temperatures.
    """
    temperatures = []
    i = 0

```

```

while True:
    entered_temp = input(f"Enter temperature {i + 1} (or press Enter to exit): ")

    if len(entered_temp) == 0:
        break # Exit the loop if the user presses Enter without input

    temp = float(entered_temp)
    temperatures.append(temp)
    i += 1 # Increment the counter only if a valid temperature is entered

if temperatures:
    max_temp = max(temperatures)
    min_temp = min(temperatures)
    mean_temp = mean(temperatures)

    return max_temp, min_temp, mean_temp

# Call the function and unpack the results
max_temp, min_temp, mean_temp = read_temperatures()

print(f"The max temperature is: {max_temp},\nThe min temperature is: {min_temp},\nThe mean temperature is: {mean_temp:.2f}")

```

Enter temperature 1 (or press Enter to exit): 45

Enter temperature 2 (or press Enter to exit): 56

Enter temperature 3 (or press Enter to exit): 78

Enter temperature 4 (or press Enter to exit):

The max temperature is: 78.0,

The min temperature is: 45.0,

The mean temperature is: 59.67

