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CS 401
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Homework 1

Test Case 1: Addition of Positive Numbers

First number: 10.5

Second number: 5

Operation: Addition

Expected Result: 15.5

Result:

```
Welcome to The Simple Calculator

Please input the first number:
10.5
Please input the second number:
5
Please input the number for which operation you want to perform
1: Addition
2: Subtraction
3: Multiplication
4: Division
1
Result: 10.50 + 5.00 = 15.50
```

Test Case 2: Subtraction of Positive Numbers

First number: 14

Second number: 5.5

Operation: Subtraction

Expected result: 8.5

Result:

```
Do you want to perform another calculation? (yes/no):
yes
Please input the first number:
14
Please input the second number:
5.5
Please input the number for which operation you want to perform
1: Addition
2: Subtraction
3: Multiplication
4: Division
2
Result: 14.00 - 5.50 = 8.50
Do you want to perform another calculation? (yes/no):
```

Test Case 3: Multiplication of Positive Numbers

First number: 4.5

Second number 5:

Operation: Multiplication

Expected Output: 22.5

Result:

```
Do you want to perform another calculation? (yes/no):
yes
Please input the first number:
4.5
Please input the second number:
5
Please input the number for which operation you want to perform
1: Addition
2: Subtraction
3: Multiplication
4: Division
3
Result: 4.50 * 5.00 = 22.50
```

Test Case 4: Division of Positive Numbers

First number: 8.5

Second number 0.5:

Operation: Division

Expected Output: 17

Result:

```
Do you want to perform another calculation? (yes/no):
yes
Please input the first number:
8.5
Please input the second number:
0.5
Please input the number for which operation you want to perform
1: Addition
2: Subtraction
3: Multiplication
4: Division
4
Result: 8.50 / 0.50 = 17.00
```

Test Case 5: Inputting a non numeric value for number 1

Input value: Hello

Operation: Selection

Expected Output: Invalid input. Please enter a float value.

Result

```
Do you want to perform another calculation? (yes/no):
yes
Please input the first number:
Hello
Invalid input. Please enter a float value.
Please input the first number:
```

Test Case 6: Inputting a non numeric value for number 2

Input value: Hello

Operation: Selection

Expected Output: Invalid input. Please enter a float value.

Result:

```
Invalid input. Please enter a float value.
Please input the first number:
1
Please input the second number:
Hello
Invalid input. Please enter a float value.
Please input the second number:
```

Test Case 7: Inputting a non integer value for selection

Input value: Hello

Operation: Selection

Expected Output: Invalid input. Please enter an integer value.

Result

```
Please input the second number:
2
Please input the number for which operation you want to perform
1: Addition
2: Subtraction
3: Multiplication
4: Division
Hello
Invalid input. Please enter an integer value.
```

Test Case 8: addition of negative decimal values

First number: -1.25

Second number -1.5

Operation: Addition

Expected output: -2.75

Result:

Please input the first number:

-1.25

Please input the second number:

1.5

Please input the number for which operation you want to perform

1: Addition

2: Subtraction

3: Multiplication

4: Division

1

Result: $-1.25 + 1.50 = 0.25$

Test Case 9: Subtraction of negative decimal values

First number: -1.25

Second number -1.5

Operation: Subtraction

Expected output: 0.25

Result:

Please input the first number:

-1.25

Please input the second number:

-1.5

Please input the number for which operation you want to perform

1: Addition

2: Subtraction

3: Multiplication

4: Division

2

Result: $-1.25 - -1.50 = 0.25$

Test Case 10: Multiplication of negative decimal values

First number: -2.5

Second number -1.5

Operation: Multiplication

Expected output: 3.75

Result:

Please input the first number:

-2.5

Please input the second number:

-1.5

Please input the number for which operation you want to perform

1: Addition

2: Subtraction

3: Multiplication

4: Division

3

Result: $-2.50 * -1.50 = 3.75$

Test Case 11: Division Of negative decimal values

First number: -2.5

Second number -1.5

Operation: Multiplication

Expected output: Around 1.67

Result:

Please input the first number:

-2.5

Please input the second number:

-1.5

Please input the number for which operation you want to perform

1: Addition

2: Subtraction

3: Multiplication

4: Division

4

Result: $-2.50 / -1.50 = 1.67$

Do you want to perform another calculation? (yes/no):

Test Case 12: Division by 0

First number: -2.5

Second number 0

Operation: Division

Expected output: Cannot divide by zero.

Result:

```
Please input the first number:
-2.5
Please input the second number:
0
Please input the number for which operation you want to perform
1: Addition
2: Subtraction
3: Multiplication
4: Division
4
Cannot divide by zero.
```

Test Case 12: Multiplication by 0

First number: -2.5

Second number 0

Operation: Division

Expected output: 0

Result:

```
Please input the first number:
-2.5
Please input the second number:
0
Please input the number for which operation you want to perform
1: Addition
2: Subtraction
3: Multiplication
4: Division
3
Result: -2.50 * 0.00 = -0.00
```

Test Case 13: Continue

Operation: Perform another calculation

Input: yes

Expected output: Please input the first number:

Result:

```
Do you want to perform another calculation? (yes/no):
yes
Please input the first number:
-2.5
Please input the second number:
-1.5
```

Test Case 14: Inputting wrong value for continuation or quitting

Input: Hello

Operation: Perform another calculation

Expect Output: Invalid input. Please enter 'yes' or 'no'.

Result:

```
Do you want to perform another calculation? (yes/no):  
hello  
Invalid input. Please enter 'yes' or 'no'.
```

Test Case 15: Inputting a higher integer value in the operation selection

Operation selection

Input: 7

Expected Output: Invalid input. Please enter an integer value between 1 and 4.

Result:

```
Please input the number for which operation you want to perform  
1: Addition  
2: Subtraction  
3: Multiplication  
4: Division  
76  
Invalid input. Please enter an integer value between 1 and 4.
```

Test Case 16: Exit

Operation Perform another calculation

Expected Output: Goodbye

Result:

```
Do you want to perform another calculation? (yes/no):  
no  
Goodbye
```