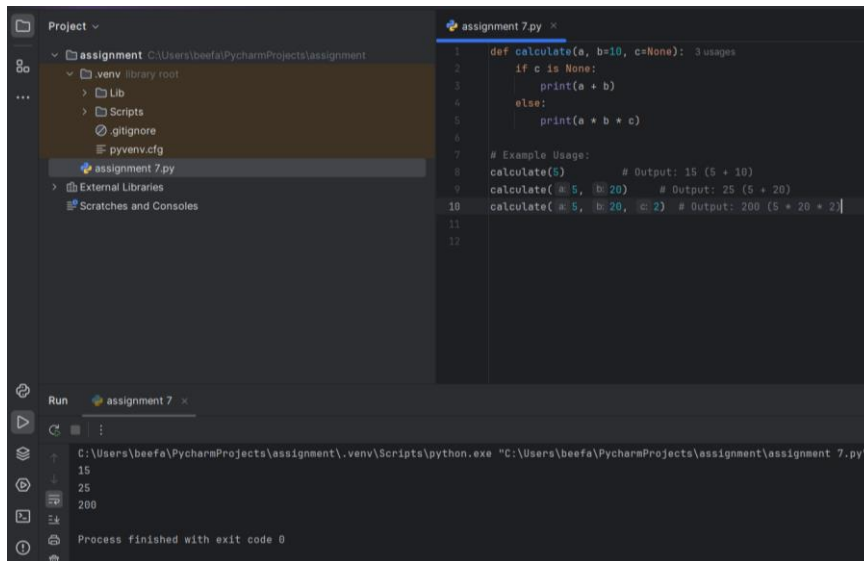


## Exercise 1

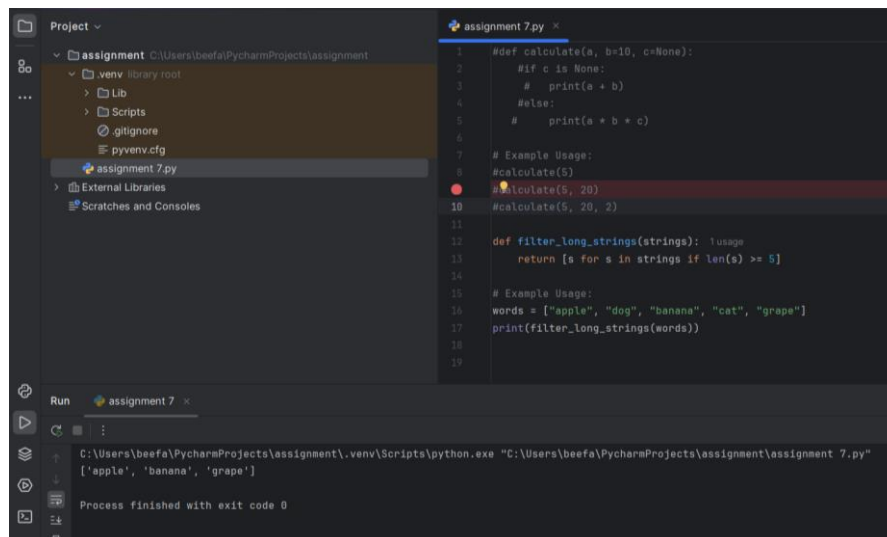


The screenshot shows the PyCharm IDE interface. The left sidebar displays the project structure for 'assignment' at 'C:\Users\beefa\PycharmProjects\assignment'. The main editor window shows the code for 'assignment 7.py'.

```
1 def calculate(a, b=10, c=None): 3 usages
2     if c is None:
3         print(a + b)
4     else:
5         print(a + b * c)
6
7 # Example Usage:
8 calculate(5) # Output: 15 (5 + 10)
9 calculate(5, 20) # Output: 25 (5 + 20)
10 calculate(5, 20, 2) # Output: 200 (5 + 20 * 2)
```

The bottom panel shows the Run output for 'assignment 7'. The command executed is: `C:\Users\beefa\PycharmProjects\assignment\.venv\Scripts\python.exe "C:\Users\beefa\PycharmProjects\assignment\assignment 7.py"`. The output is: `15`, `25`, and `200`. The process finished with exit code 0.

## Exercise 1

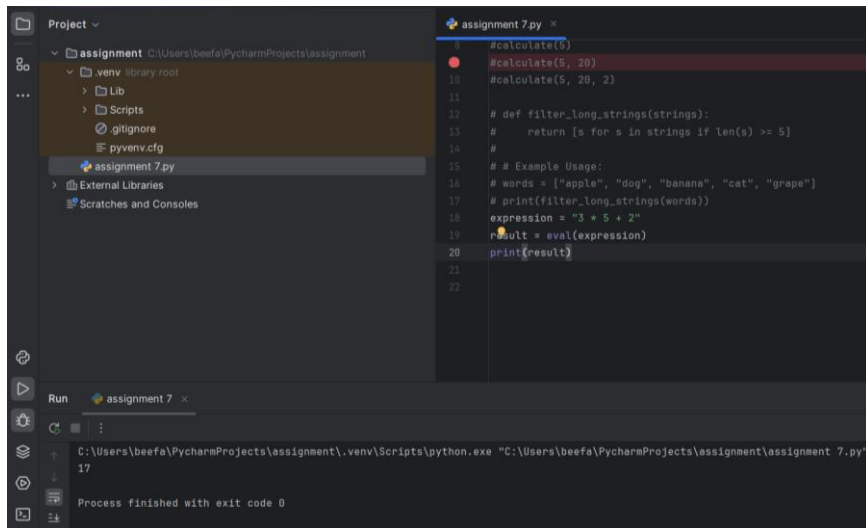


The screenshot shows the PyCharm IDE interface. The left sidebar displays the project structure for 'assignment' at 'C:\Users\beefa\PycharmProjects\assignment'. The main editor window shows the code for 'assignment 7.py'.

```
1 #def calculate(a, b=10, c=None):
2     #if c is None:
3         # print(a + b)
4     #else:
5         # print(a + b * c)
6
7 # Example Usage:
8 #calculate(5)
9 #calculate(5, 20)
10 #calculate(5, 20, 2)
```

The code contains several syntax errors, indicated by red squiggly lines and error icons in the left margin: a missing closing parenthesis on line 1, a missing colon on line 2, and a missing closing parenthesis on line 9. The bottom panel shows the Run output for 'assignment 7'. The command executed is: `C:\Users\beefa\PycharmProjects\assignment\.venv\Scripts\python.exe "C:\Users\beefa\PycharmProjects\assignment\assignment 7.py"`. The output is: `['apple', 'banana', 'grape']`. The process finished with exit code 0.

### Exercise 3



The screenshot shows the PyCharm IDE interface. On the left, the Project view displays the file structure of the 'assignment' project, including a virtual environment (venv) and the 'assignment 7.py' file. The main editor window shows the code for 'assignment 7.py'. The code includes a function 'calculate(x, y)' with a docstring, a function 'filter\_long\_strings(strings)' with a docstring, and an example usage section. The example usage section defines a list of words, filters them using 'filter\_long\_strings', evaluates an expression '3 + 5 + 2', and prints the result. The Run window at the bottom shows the command executed: 'C:\Users\beefa\PycharmProjects\assignment\venv\Scripts\python.exe "C:\Users\beefa\PycharmProjects\assignment\assignment 7.py"', and the output: '17'. The process finished with exit code 0.

```
1 # calculate(x, y)
2 # calculate(5, 20)
3 # calculate(5, 20, 2)
4
5
6
7
8
9
10
11
12 # def filter_long_strings(strings):
13 #     return [s for s in strings if len(s) >= 5]
14 #
15 # # Example Usage:
16 # words = ["apple", "dog", "banana", "cat", "grape"]
17 # print(filter_long_strings(words))
18 # expression = "3 + 5 + 2"
19 # result = eval(expression)
20 # print(result)
```

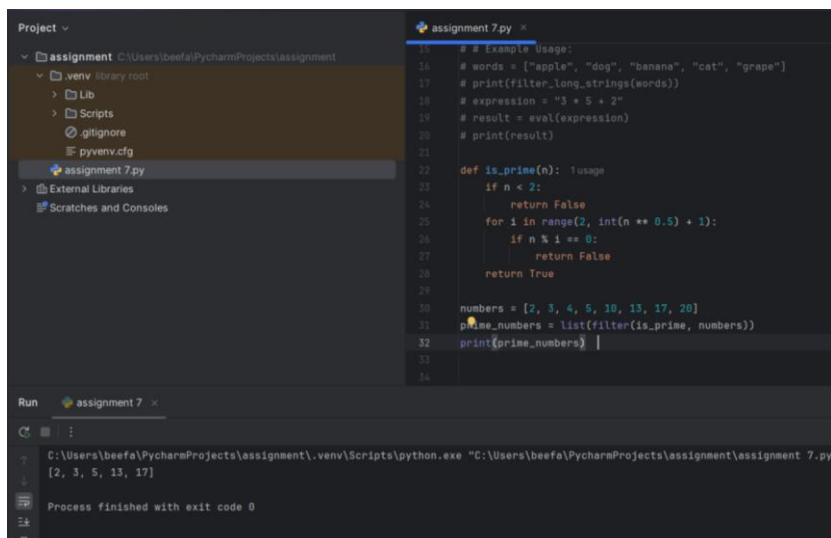
Run assignment 7

C:\Users\beefa\PycharmProjects\assignment\venv\Scripts\python.exe "C:\Users\beefa\PycharmProjects\assignment\assignment 7.py"

17

Process finished with exit code 0

### Exercise 4



The screenshot shows the PyCharm IDE interface. On the left, the Project view displays the file structure of the 'assignment' project, including a virtual environment (venv) and the 'assignment 7.py' file. The main editor window shows the code for 'assignment 7.py'. The code includes a function 'is\_prime(n)' with a docstring, a list of numbers, and a list comprehension to filter prime numbers. The Run window at the bottom shows the command executed: 'C:\Users\beefa\PycharmProjects\assignment\venv\Scripts\python.exe "C:\Users\beefa\PycharmProjects\assignment\assignment 7.py"', and the output: '[2, 3, 5, 13, 17]'. The process finished with exit code 0.

```
15 # # Example Usage:
16 # words = ["apple", "dog", "banana", "cat", "grape"]
17 # print(filter_long_strings(words))
18 # expression = "3 + 5 + 2"
19 # result = eval(expression)
20 # print(result)
21
22 def is_prime(n):
23     """usage"""
24     if n < 2:
25         return False
26     for i in range(2, int(n ** 0.5) + 1):
27         if n % i == 0:
28             return False
29     return True
30
31 numbers = [2, 3, 4, 5, 10, 13, 17, 20]
32 prime_numbers = list(filter(is_prime, numbers))
33 print(prime_numbers)
```

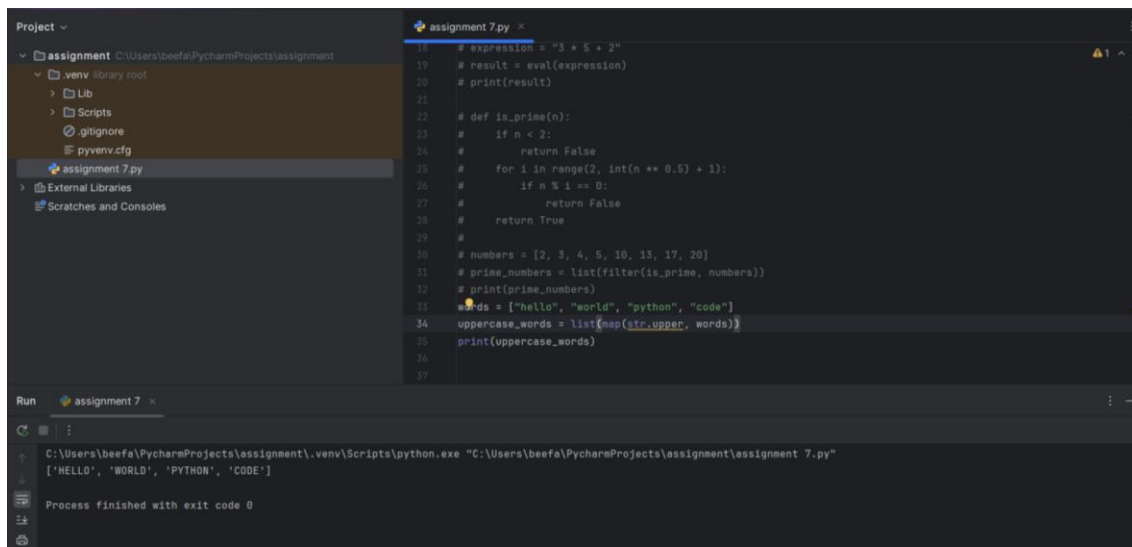
Run assignment 7

C:\Users\beefa\PycharmProjects\assignment\venv\Scripts\python.exe "C:\Users\beefa\PycharmProjects\assignment\assignment 7.py"

[2, 3, 5, 13, 17]

Process finished with exit code 0

## Exercise 5



The screenshot displays the PyCharm IDE interface. The left sidebar shows the project structure for 'assignment' located at 'C:\Users\beefa\PycharmProjects\assignment'. The main editor window shows the file 'assignment 7.py' with the following Python code:

```
18 # expression = "3 * 5 + 2"
19 # result = eval(expression)
20 # print(result)
21
22 # def is_prime(n):
23 #     if n < 2:
24 #         return False
25 #     for i in range(2, int(n ** 0.5) + 1):
26 #         if n % i == 0:
27 #             return False
28 #     return True
29 #
30 # numbers = [2, 3, 4, 5, 10, 13, 17, 20]
31 # prime_numbers = list(filter(is_prime, numbers))
32 # print(prime_numbers)
33 words = ["hello", "world", "python", "code"]
34 uppercase_words = list(map(str.upper, words))
35 print(uppercase_words)
36
37
```

The bottom panel shows the 'Run' output for 'assignment 7'. The command executed is:

```
C:\Users\beefa\PycharmProjects\assignment\.venv\Scripts\python.exe "C:\Users\beefa\PycharmProjects\assignment\assignment 7.py"
```

The output is:

```
['HELLO', 'WORLD', 'PYTHON', 'CODE']
```

The process finished with exit code 0.