

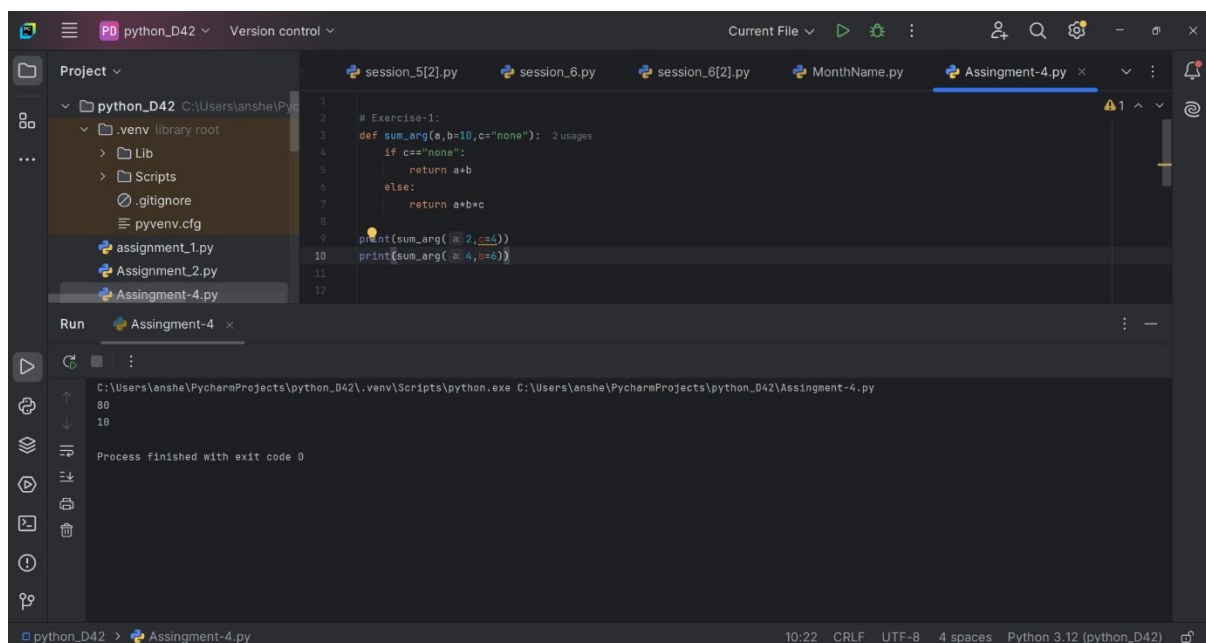
Exercise-1:

Create a function that takes in three arguments, two of which are optional. The first argument should be a required positional argument, the second argument should be a keyword argument with a default value of 10, and the third argument should be a keyword argument with a default value of None. The function should print the sum of the first two arguments if the third argument is None, and print the product of all three arguments if the third argument is not None.

Code:

```
def sum_arg(a,b=10,c="none"):  
    if c=="none":  
        return a+b  
    else:  
        return a*b*c  
  
print(sum_arg(2,c=4))  
print(sum_arg(4,b=6))
```

result:



Exercise-2:

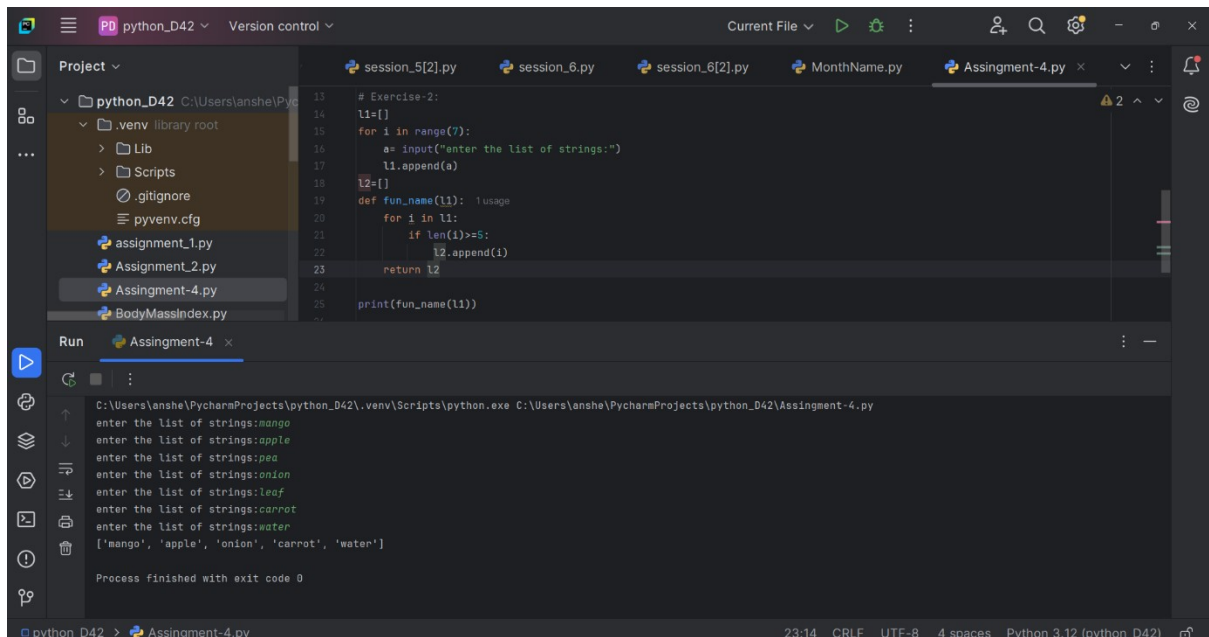
Write a function that takes in a list of strings and returns a new list with only the strings that have a length greater than or equal to 5.

Code:

```
l1=[]
for i in range(7):
    a= input("enter the list of strings:")
    l1.append(a)
l2=[]
def fun_name(l1):
    for i in l1:
        if len(i)>=5:
            l2.append(i)
    return l2

print(fun_name(l1))
```

result:



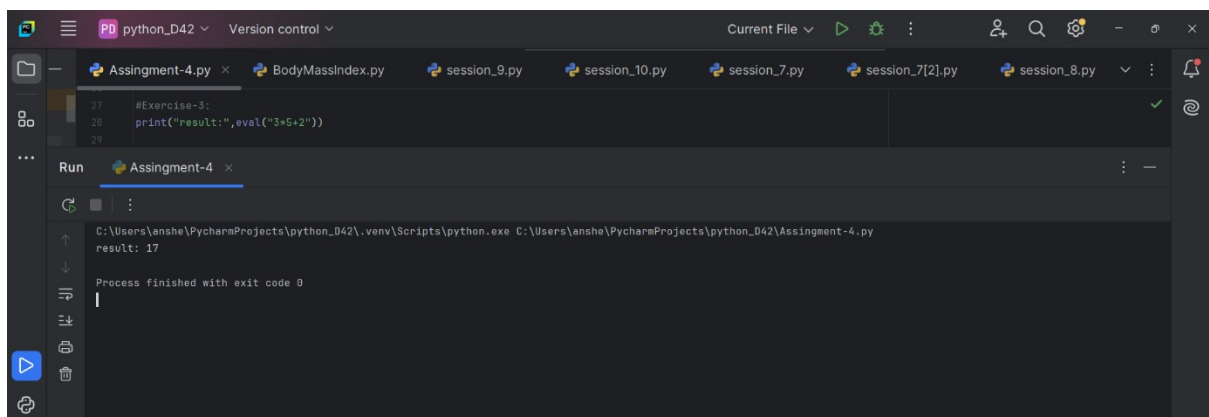
Exercise-3:

Write a Python program to evaluate a given mathematical expression using the eval() function. expression = "3 * 5 + 2"

Code:

```
print("result:",eval("3*5+2"))
```

result:



Exercise-4:

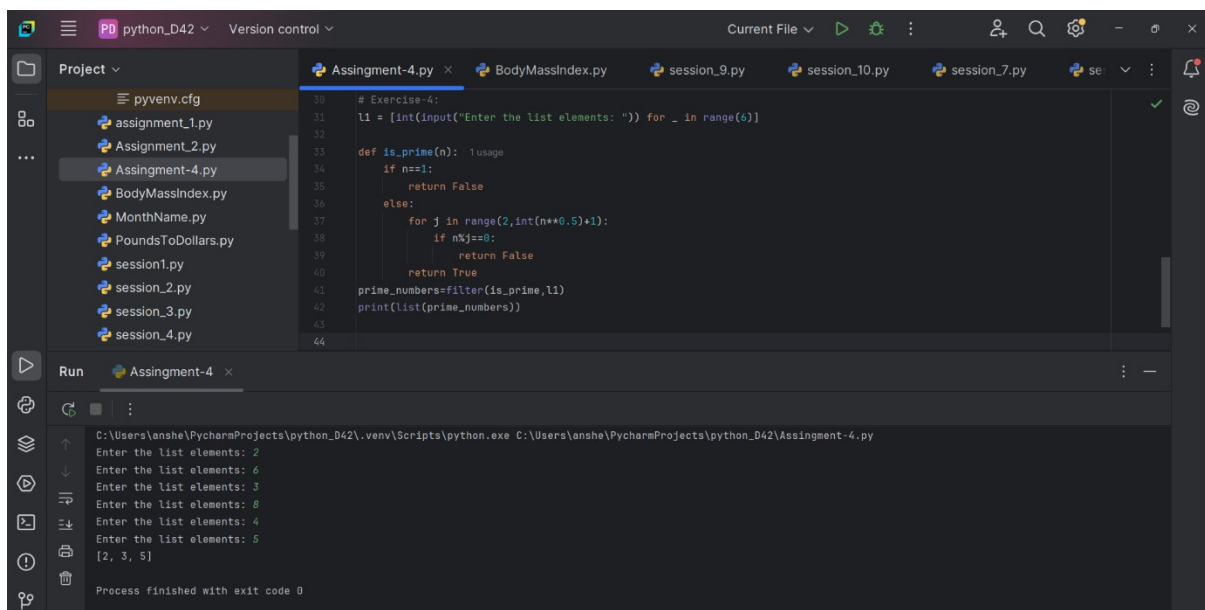
Write a Python program to filter out the prime numbers from a given list of integers using the filter() function.

Code:

```
l1 = [int(input("Enter the list elements: ")) for _ in range(6)]
```

```
def is_prime(n):  
    if n==1:  
        return False  
    else:  
        for j in range(2,int(n**0.5)+1):  
            if n%j==0:  
                return False  
        return True  
prime_numbers=filter(is_prime,l1)  
print(list(prime_numbers))
```

result:



The screenshot shows the PyCharm IDE interface. The top toolbar includes icons for file operations, running, and debugging. The 'Project' sidebar on the left lists several files, with 'Assingment-4.py' selected. The main editor window displays the Python code for Exercise-4, which prompts the user to enter 6 list elements and then prints the filtered prime numbers. The 'Run' console at the bottom shows the execution output: 'Enter the list elements: 2', 'Enter the list elements: 6', 'Enter the list elements: 3', 'Enter the list elements: 8', 'Enter the list elements: 4', 'Enter the list elements: 5', and the final result '[2, 3, 5]'. The console also indicates that the process finished with exit code 0.

```
# Exercise-4:  
l1 = [int(input("Enter the list elements: ")) for _ in range(6)]  
  
def is_prime(n):  
    if n==1:  
        return False  
    else:  
        for j in range(2,int(n**0.5)+1):  
            if n%j==0:  
                return False  
        return True  
prime_numbers=filter(is_prime,l1)  
print(list(prime_numbers))
```

Run Assingment-4

C:\Users\anshe\PycharmProjects\python_D42\.venv\Scripts\python.exe C:\Users\anshe\PycharmProjects\python_D42\Assingment-4.py

Enter the list elements: 2
Enter the list elements: 6
Enter the list elements: 3
Enter the list elements: 8
Enter the list elements: 4
Enter the list elements: 5
[2, 3, 5]
Process finished with exit code 0

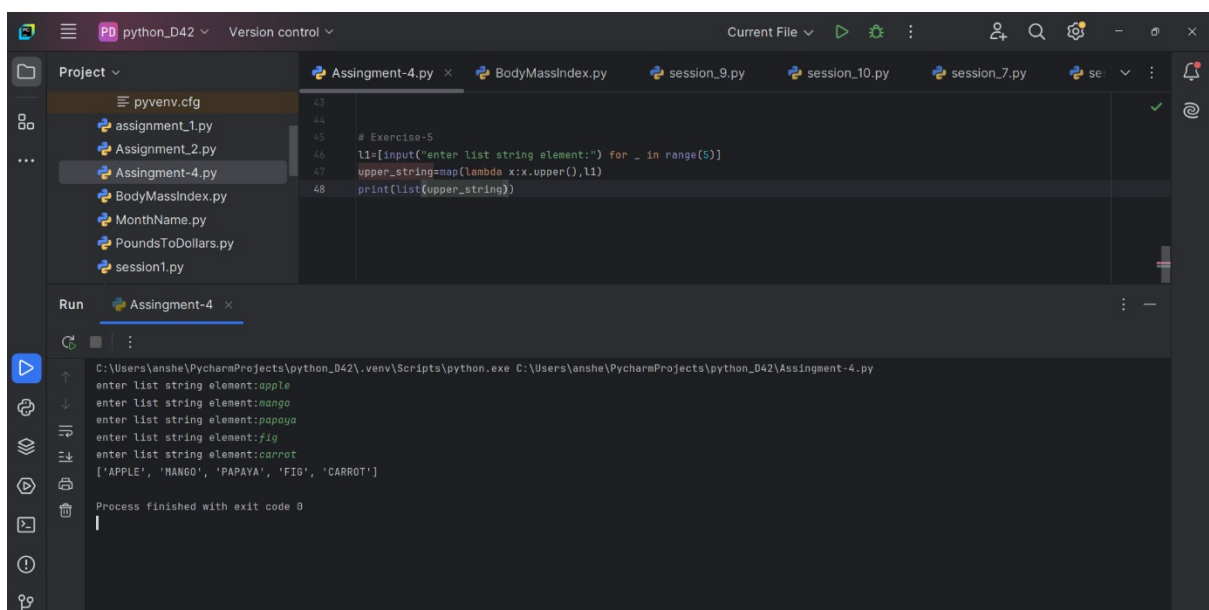
Exercise-5:

Write a Python program to convert a list of strings to uppercase using the map() function.

Code:

```
l1=[input("enter list string element:") for _ in range(5)]
upper_string=map(lambda x:x.upper(),l1)
print(list(upper_string))
```

result:



```
43
44
45 # Exercise-5
46 l1=[input("enter list string element:") for _ in range(5)]
47 upper_string=map(lambda x:x.upper(),l1)
48 print(list(upper_string))
```

Run Assingment-4

```
C:\Users\anshe\PycharmProjects\python_D42\.venv\Scripts\python.exe C:\Users\anshe\PycharmProjects\python_D42\Assingment-4.py
enter list string element:apple
enter list string element:mango
enter list string element:papaya
enter list string element:fig
enter list string element:carrot
['APPLE', 'MANGO', 'PAPAYA', 'FIG', 'CARROT']
Process finished with exit code 0
```