

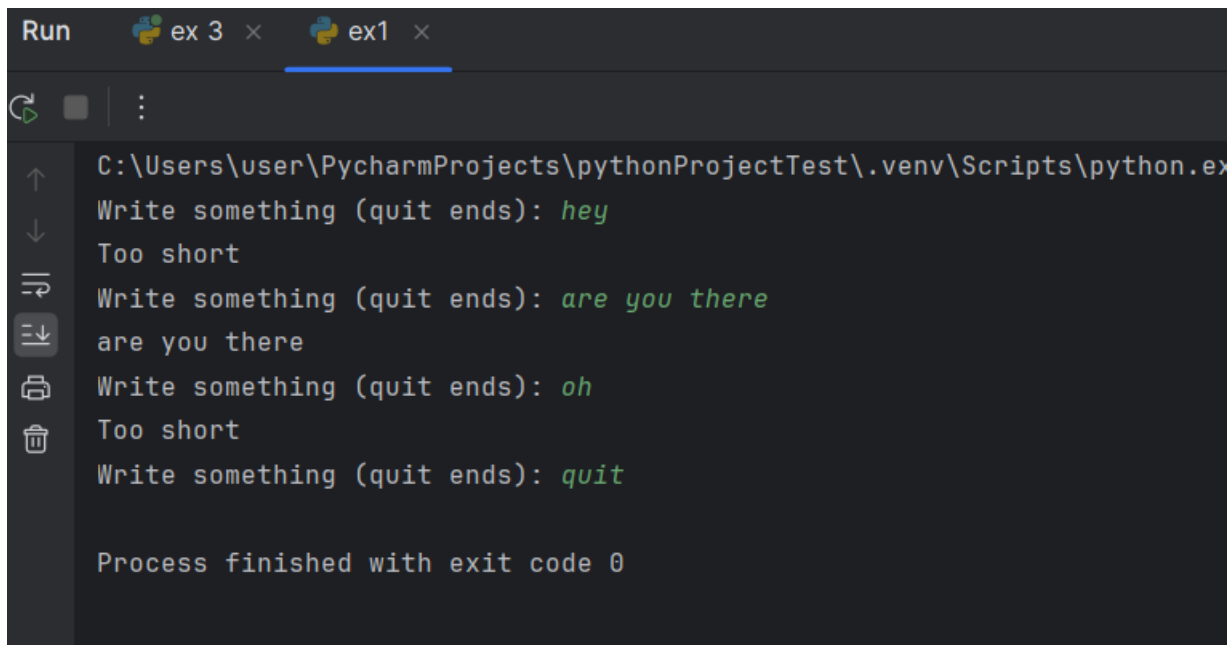
# Artificial Intelligence with Python

## Assignment 1

### Ex. 1

#### Program

```
def tester(given_string="Too short"):
    if len(given_string) < 10:
        print("Too short")
    else:
        print(given_string)
def main():
    while True:
        user_input = input ("Write something (quit ends): ")
        if user_input == "quit":
            break
        tester(user_input)
if __name__ == "__main__":
    main()
```



```
Run  ex 3 x  ex1 x
C:\Users\user\PycharmProjects\pythonProjectTest\.venv\Scripts\python.exe
Write something (quit ends): hey
Too short
Write something (quit ends): are you there
are you there
Write something (quit ends): oh
Too short
Write something (quit ends): quit

Process finished with exit code 0
```

### Ex. 2

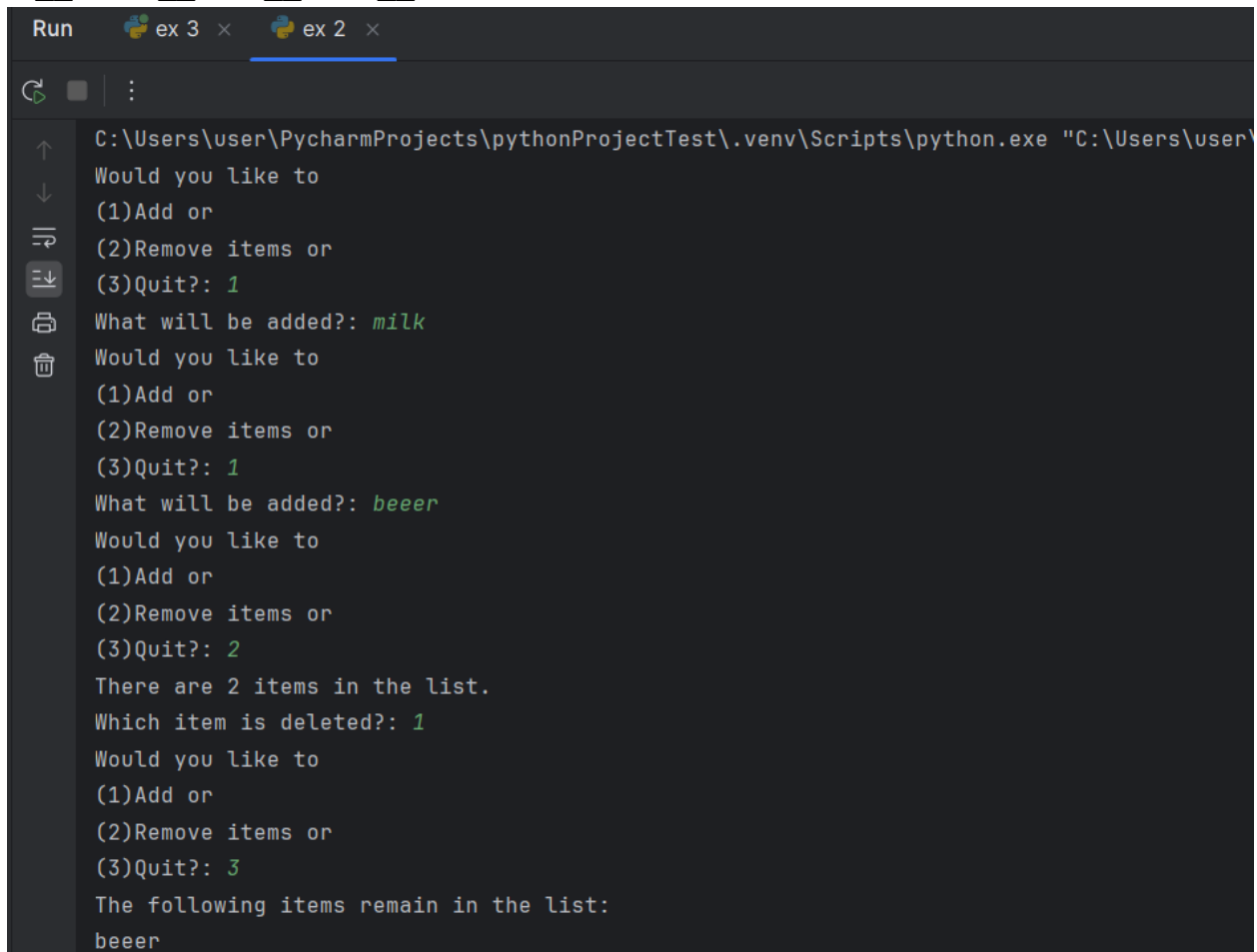
## Program

```
def main():
    """
    grocery shopping list.
    """

    shopping_list = []

    while True:
        choice = input("Would you like to\n(1)Add or\n(2)Remove items\nor\n(3)Quit?: ")
        if choice == '1': # Add item
            item = input("What will be added?: ")
            shopping_list.append(item)
        elif choice == '2': # Remove item
            if len(shopping_list) == 0:
                print("The list is empty.")
            else:
                print("There are", len(shopping_list), "items in the list.")
                try:
                    remove_index = int(input("Which item is deleted?: ")) - 1
                    if 0 <= remove_index < len(shopping_list):
                        del shopping_list[remove_index]
                    else:
                        print("Incorrect selection.")
                except ValueError:
                    print("Incorrect selection.")
        elif choice == '3': # Quit
            print("The following items remain in the list:")
            for item in shopping_list:
                print(item)
            break
        else:
            print("Incorrect selection.")
```

```
if __name__ == "__main__":
```



```
Run ex 3 x ex 2 x
C:\Users\user\PycharmProjects\pythonProjectTest\.venv\Scripts\python.exe "C:\Users\user\
Would you like to
(1)Add or
(2)Remove items or
(3)Quit?: 1
What will be added?: milk
Would you like to
(1)Add or
(2)Remove items or
(3)Quit?: 1
What will be added?: beer
Would you like to
(1)Add or
(2)Remove items or
(3)Quit?: 2
There are 2 items in the list.
Which item is deleted?: 1
Would you like to
(1)Add or
(2)Remove items or
(3)Quit?: 3
The following items remain in the list:
beer
```

Ex 3:

### Program

```
def supermarket():
```

```
    """
```

```
    simple supermarket checkout.
```

```
    """
```

```
    product_prices = [10, 14, 22, 33, 44, 13, 22, 55, 66, 77]
```

```
    total_sum = 0
```

```
    print("Supermarket")
```

```
    print("=====")
```

```

while True:
    try:
        product_number = int(input("Please select product (1-10) 0 to Quit: "))
        if product_number == 0:
            break
        if 1 <= product_number <= 10:
            price = product_prices[product_number - 1] # Adjust for zero-based
indexing
            print(f"Product: {product_number} Price: {price}")
            total_sum += price
        else:
            print("Invalid product number.")
    except ValueError:
        print("Invalid input. Please enter a number.")

print(f"Total: {total_sum}")
while True:
    try:
        payment = float(input("Payment: "))
        if payment >= total_sum:
            change = payment - total_sum
            print(f"Change: {change}")
            break
        else:
            print("Insufficient payment. Please enter a sufficient amount.")
    except ValueError:
        print("Invalid input. Please enter a valid number.")

if __name__ == "__main__":
    supermarket()

```

```
Run ex 3 x ex 2 x
C:\Users\user\PycharmProjects\pythonProjectTest\.venv\Scripts\python.exe "C:\Users\user\PycharmProjects\pythonProject\AI
Supermarket
=====
Please select product (1-10) 0 to Quit: 3
Product: 3 Price: 22
Please select product (1-10) 0 to Quit: 5
Product: 5 Price: 44
Please select product (1-10) 0 to Quit: 7
Product: 7 Price: 22
Please select product (1-10) 0 to Quit: 1
Product: 1 Price: 10
Please select product (1-10) 0 to Quit: 6
Product: 6 Price: 13
Please select product (1-10) 0 to Quit: 10
Product: 10 Price: 77
Please select product (1-10) 0 to Quit: 0
Total: 188
Payment: 200
Change: 12.0

Process finished with exit code 0
|
```

Ex 4

### Program

```
def print_with_commas(sentence):
    for i in range(len(sentence)):
        if sentence[i] == " ":
            print(",", end="")
        else:
            print(sentence[i], end="")
    print()
```

```
def print_words_on_new_lines(sentence):
    current_word = ""
    for char in sentence:
        if char == " ":
            print(current_word)
            current_word = ""
```

```
else:  
    current_word += char  
print(current_word)
```

```
sentence = input("Please enter sentence:")  
print_with_commas(sentence)  
print_words_on_new_lines(sentence)
```



```
Run ex 4 x ex 2 x  
C:\Users\user\PycharmProjects\pythonProjectTest\.venv\Scripts\python.exe "C:\Users\user\PycharmF  
Please enter sentence: this is a sentence  
this,is,a,sentence  
this  
is  
a  
sentence  
  
Process finished with exit code 0
```