1.Create a simple program to manage products in a store using Python. Each product will have a name, price, and stock quantity. The program should allow adding products, updating stock, and viewing product details.

Class Definition

Create a Product class with the following:

• Attributes:

name: The name of the product (string).

price: The price of the product (float).

stock: The quantity of the product in stock (integer).

• Methods:

update_stock(quantity): Adds or removes the specified quantity from the product stock.

str: Returns a string in the format: "Product: , Price: $, Stock: ".

Interactive Program

Create a simple program that:

1. Adds a new product.
2. Updates the stock of an existing product.
3. Displays the details of a product.
4. Exits the program.

Program:

```python
class Product:
    # Represents a product with a name, price, and stock quantity.

    def __init__(self, name, price, stock):

        self.name = name
        self.price = price
        self.stock = stock

    def update_stock(self, quantity):

        # Updates the stock quantity of the product.

        self.stock += quantity

    def __str__(self):

        # Returns a string representation of the product.

        return f"Product: {self.name}, Price: ${self.price}, Stock: {self.stock}"


def add_product(products):

    # Adds a new product to the store.

    name = input("Enter product name: ")
    price = float(input("Enter product price: "))
    stock = int(input("Enter product stock: "))
    product = Product(name, price, stock)
    products[name] = product
    print("Product added successfully!")


def update_stock(products):

    # Updates the stock of an existing product.

    name = input("Enter product name to update: ")
    if name in products:
        quantity = int(input("Enter quantity to add/remove: "))
        products[name].update_stock(quantity)
        print("Stock updated successfully!")
    else:
        print("Product not found.")


def view_product_details(products):
```

```python
        # Displays the details of a product.

        name = input("Enter product name: ")
        if name in products:
            print(products[name])
        else:
            print("Product not found.")


def main():

    products = {}  # Dictionary to store products

    while True:
        print("\nOptions:")
        print("1. Add a new product")
        print("2. Update the stock of an existing product")
        print("3. Display the details of a product")
        print("4. Exit the program")

        choice = input("Enter your choice: ")

        if choice == "1":
            add_product(products)
        elif choice == "2":
            update_stock(products)
        elif choice == "3":
            view_product_details(products)
        elif choice == "4":
            print("Exiting the system.")
            print("Goodbye!")
            break
        else:
            print("Invalid choice. Please try again.")


if __name__ == "__main__":
    main()
```

```
Options:
1. Add a new product
2. Update the stock of an existing product
3. Display the details of a product
4. Exit the program
Enter your choice: 1
Enter product name: Laptop
Enter product price: 999.99
Enter product stock: 10
Product added successfully!

Options:
1. Add a new product
2. Update the stock of an existing product
3. Display the details of a product
4. Exit the program
Enter your choice: 2
Enter product name to update: Laptop
Enter quantity to add/remove: -2
Stock updated successfully!

Options:
1. Add a new product
2. Update the stock of an existing product
3. Display the details of a product
4. Exit the program
Enter your choice: 3
Enter product name: Laptop
Product: Laptop, Price: $999.99, Stock: 8

Options:
1. Add a new product
2. Update the stock of an existing product
3. Display the details of a product
4. Exit the program
Enter your choice: 4
Exiting the system.
Goodbye!
```