	VIDYAVARDHINI'S COLLEGE OF ENGINEERING AND TECHNOLOGY **Vasai, India**
	Subject: CSL405
	Assistant Professor: Raunak Joshi
	Semester: IV **Branches:** CSE-DS
	Deadline: 12th February 2025 **Academic Year:** 2024-25
	Module 1: Python Basics

Course Outcome 1 - Apply basic concepts of python to implement input, output, control statements and data types.

CO1 - Apply Level

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: <name>, Price: $<price>, Stock: <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.

Example Output

Step 1: Adding a Product

```
Enter product name: Laptop Enter product price: 999.99 Enter product stock: 10
Product added successfully!
```

Step 2: Updating Stock

```
Enter product name to update: Laptop Enter quantity to add/remove: -2 Stock updated
successfully!
```

Step 3: Viewing Product Details

```
Enter product name: Laptop Product: Laptop, Price: $999.99, Stock: 8
```

Step 4: Exiting the Program

```
Exiting the system. Goodbye!
```

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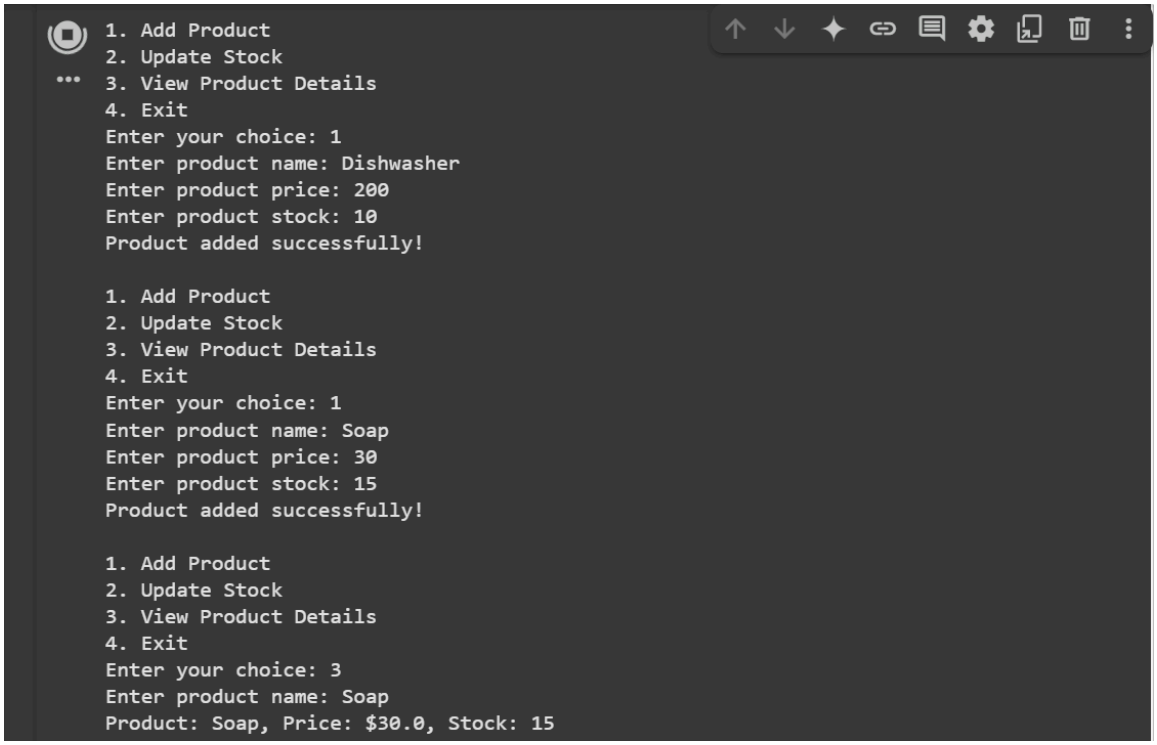
Code:

```
class Product:
    def __init__(self, name, price, stock):
        self.name = name
        self.price = price
        self.stock = stock

    def update_stock(self, quantity):
        self.stock += quantity
        print("Stock updated successfully!")

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

def main():
    products = {}

    while True:
        print("\n1. Add Product")
        print("2. Update Stock")
        print("3. View Product Details")
        print("4. Exit")

        choice = input("Enter your choice: ")

        if choice == "1":
            name = input("Enter product name: ")
            price = float(input("Enter product price: "))
            stock = int(input("Enter product stock: "))
            products[name] = Product(name, price, stock)
            print("Product added successfully!")

        elif choice == "2":
            name = input("Enter product name to update: ")
            if name in products:
                quantity = int(input("Enter quantity to add/remove: "))
                products[name].update_stock(quantity)
            else:
                print("Product not found!")

        elif choice == "3":
            name = input("Enter product name: ")
            if name in products:
                print(products[name])
            else:
                print("Product not found!")
```

```
        elif choice == "4":
            print("Exiting the system. Goodbye!")
            break

        else:
            print("Invalid choice! Please enter a valid option.")

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

Output:



```
1. Add Product
2. Update Stock
3. View Product Details
4. Exit
Enter your choice: 2
Enter product name to update: Soap
Enter quantity to add/remove: 10
Stock updated successfully!

1. Add Product
2. Update Stock
3. View Product Details
4. Exit
Enter your choice: 3
Enter product name: Soap
Product: Soap, Price: $30.0, Stock: 25

1. Add Product
2. Update Stock
3. View Product Details
4. Exit
Enter your choice: 2
Enter product name to update: Soap
Enter quantity to add/remove: -5
Stock updated successfully!
```

```
1. Add Product
2. Update Stock
3. View Product Details
4. Exit
Enter your choice: 3
Enter product name: Soap
Product: Soap, Price: $30.0, Stock: 20

1. Add Product
2. Update Stock
3. View Product Details
4. Exit
Enter your choice: 4
Exiting the system. Goodbye!
```