ASSIGNMENT 1

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```python
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

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


def add_product(products):
    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!")


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


def main():
    products = {}
    while True:
        print("\n1. Add a new product")
```

```python
        print("2. Update the stock of an existing product")
        print("3. View product details")
        print("4. Exit the program")
        choice = input("Enter your choice: ")

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

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

```
1. Add a new product
2. Update the stock of an existing product
3. View product details
4. Exit the program
Enter your choice: 1
Enter product name: Laptop
Enter product price: 199999
Enter product stock: 3
Product added successfully!

1. Add a new product
2. Update the stock of an existing product
3. View product details
4. Exit the program
Enter your choice: 3
Enter product name: Laptop
Product: Laptop, Price: $199999.0, Stock: 3

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