

# 235229122-lab11-pavithiran-v

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Programming and Data Structures with Python Lab11. Car Washing Shop Management Using Queues

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[ ]: class Queue:
    def __init__(self):
        self.items = []

    def is_empty(self):
        return len(self.items) == 0

    def enqueue(self, item):
        self.items.append(item)

    def dequeue(self):
        if not self.is_empty():
            return self.items.pop(0)
        return None

    def size(self):
        return len(self.items)

def main():
    car_queue = Queue()

    while True:
        print("\nCar Washing Shop Management")
        print("1. Add a car to the queue")
        print("2. Wash the next car")
        print("3. Display the number of cars waiting")
        print("4. Exit")

        choice = input("Enter your choice: ")

        if choice == "1":
            car_details = input("Enter car details: ")
            car_queue.enqueue(car_details)
            print("Car added to the queue.")
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        elif choice == "2":
            if not car_queue.is_empty():
                washed_car = car_queue.dequeue()
                print(f"Car '{washed_car}' has been washed.")
            else:
                print("No cars in the queue.")

        elif choice == "3":
            queue_size = car_queue.size()
            print(f"There are {queue_size} cars waiting in the queue.")

        elif choice == "4":
            print("Thank you for using the car washing shop management program.")
            ↵
            break

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

if __name__ == "__main__":
    main()

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Car Washing Shop Management

1. Add a car to the queue
2. Wash the next car
3. Display the number of cars waiting
4. Exit

Enter your choice: 1

Enter car details: nissan gtr45

Car added to the queue.

Car Washing Shop Management

1. Add a car to the queue
2. Wash the next car
3. Display the number of cars waiting
4. Exit

Enter your choice: 1

Enter car details: Mazda MX5

Car added to the queue.

Car Washing Shop Management

1. Add a car to the queue
2. Wash the next car

3. Display the number of cars waiting
4. Exit

Enter your choice: 1

Enter car details: Bugatti Chiron

Car added to the queue.

Car Washing Shop Management

1. Add a car to the queue
2. Wash the next car
3. Display the number of cars waiting
4. Exit

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