

```
class Bus:
```

```
    def __init__(self, name, total_seats):
```

```
        self.name = name
```

```
        self.total_seats = total_seats
```

```
        self.available_seats = total_seats
```

```
        self.reserved_seats = []
```

```
    def reserve_seat(self, passenger_name, num_seats):
```

```
        if num_seats <= self.available_seats:
```

```
            self.reserved_seats.append((passenger_name, num_seats))
```

```
            self.available_seats -= num_seats
```

```
            print(f"{num_seats} seat(s) reserved for {passenger_name} on bus {self.name}.")
```

```
        else:
```

```
            print("Not enough available seats.")
```

```
    def display_seats(self):
```

```
        print(f"Available seats on bus {self.name}: {self.available_seats}/{self.total_seats}")
```

```
    def display_reserved_seats(self):
```

```
        print(f"Reserved seats on bus {self.name}:")
```

```
        for passenger, num_seats in self.reserved_seats:
```

```
            print(f"{passenger}: {num_seats} seat(s)")
```

```
class BusReservationSystem:
```

```
def __init__(self):  
    self.buses = {}  
  
def add_bus(self, bus_name, total_seats):  
    if bus_name not in self.buses:  
        self.buses[bus_name] = Bus(bus_name, total_seats)  
        print(f"Bus {bus_name} added with {total_seats} seats.")  
    else:  
        print(f"Bus {bus_name} already exists.")  
  
def reserve_seat(self, bus_name, passenger_name, num_seats):  
    if bus_name in self.buses:  
        self.buses[bus_name].reserve_seat(passenger_name, num_seats)  
    else:  
        print(f"Bus {bus_name} does not exist.")  
  
def display_seats(self, bus_name):  
    if bus_name in self.buses:  
        self.buses[bus_name].display_seats()  
    else:  
        print(f"Bus {bus_name} does not exist.")  
  
def display_reserved_seats(self, bus_name):  
    if bus_name in self.buses:  
        self.buses[bus_name].display_reserved_seats()  
    else:
```

```
print(f"Bus {bus_name} does not exist.")
```

```
# Example usage:
```

```
reservation_system = BusReservationSystem()
```

```
reservation_system.add_bus("Bus A", 50)
```

```
reservation_system.add_bus("Bus B", 40)
```

```
reservation_system.reserve_seat("Bus A", "John", 2)
```

```
reservation_system.reserve_seat("Bus A", "Alice", 3)
```

```
reservation_system.reserve_seat("Bus B", "Bob", 5)
```

```
reservation_system.display_seats("Bus A")
```

```
reservation_system.display_seats("Bus B")
```

```
reservation_system.display_reserved_seats("Bus A")
```

```
reservation_system.display_reserved_seats("Bus B")"
```

```
"Bus Bus A added with 50 seats.
```

```
Bus Bus B added with 40 seats.
```

```
2 seat(s) reserved for John on bus Bus A.
```

```
3 seat(s) reserved for Alice on bus Bus A.
```

```
5 seat(s) reserved for Bob on bus Bus B.
```

```
Available seats on bus Bus A: 45/50
```

```
Available seats on bus Bus B: 35/40
```

```
Reserved seats on bus Bus A:
```

John: 2 seat(s)

Alice: 3 seat(s)

Reserved seats on bus Bus B:

Bob: 5 seat(s)"