import time  
  
class Bus:  
    def \_\_init\_\_(self, capacity, speed):  
        self.capacity = capacity  
        self.speed = speed  
        self.passengers = 0  
  
    def embark(self, passengers):  
        if self.passengers + passengers <= self.capacity:  
            self.passengers += passengers  
            return True  
        else:  
            return False  
  
    def disembark(self, passengers):  
        if self.passengers >= passengers:  
            self.passengers -= passengers  
            return True  
        else:  
            return False  
  
class BusStop:  
    def \_\_init\_\_(self, name, distance\_to\_next, destination):  
        [self.name](http://self.name/) = name  
        self.distance\_to\_next = distance\_to\_next  
        self.destination = destination  
  
    def \_\_str\_\_(self):  
        return f"Bus Stop: {[self.name](http://self.name/)}, Next Stop Distance: {self.distance\_to\_next}, Destination: {self.destination}"  
  
bus = Bus(capacity=50, speed=50)  
bus\_stops = [  
    BusStop(name="Stop A", distance\_to\_next=10, destination="City Center"),  
    BusStop(name="Stop B", distance\_to\_next=15, destination="Mall"),  
    BusStop(name="Stop C", distance\_to\_next=12, destination="Park"),  
    BusStop(name="Stop D", distance\_to\_next=8, destination="Final Destination")  
]  
  
current\_stop\_index = 0  
while current\_stop\_index < len(bus\_stops):  
    current\_stop = bus\_stops[current\_stop\_index]  
    print(current\_stop)  
  
    passengers\_waiting = 5  
    if current\_stop.destination != bus\_stops[-1].destination:  
        can\_embark = bus.embark(passengers\_waiting)  
    else:  
        can\_embark = False  
  
    if can\_embark:  
        print(f"{passengers\_waiting} passengers board the bus.")  
    else:  
        print(f"The bus is full. {passengers\_waiting} passengers wait for the next bus.")  
  
    time\_to\_next\_stop = current\_stop.distance\_to\_next / bus.speed \* 60  
    time.sleep(time\_to\_next\_stop)  
    print(f"Bus arrives at the next stop in {time\_to\_next\_stop:.2f} minutes.")  
  
    passengers\_to\_disembark = 3  
    can\_disembark = bus.disembark(passengers\_to\_disembark)  
    if can\_disembark:  
        print(f"{passengers\_to\_disembark} passengers disembark the bus.")  
    else:  
        print("Not enough passengers to disembark.")  
     
    current\_stop\_index += 1  
  
print("Bus has reached the final destination.")