

Methods Practice Assignment

Trip Planner

Objective

Practice creating and using methods in Java, including return methods and void methods.

Description

Write a program that helps users plan a trip by calculating travel time, fuel needed, and trip cost based on user input.

The program should:

- Get user input for trip distance, average speed, fuel efficiency, and fuel price
- Calculate travel time using a return method
- Calculate fuel needed using a return method
- Calculate trip cost using a return method
- Display results using a void method

Expected Output (example)

```
Enter trip distance (miles): 300
Enter average speed (mph): 60
Enter fuel efficiency (miles per gallon): 25
Enter fuel price per gallon ($): 3.50

Results:
Travel Time: 5.00 hours
Fuel Needed: 12.00 gallons
Trip Cost: $42.00
```

Requirements

Required Components:

1. Four Methods to Implement:

- `calculateTravelTime()`
 - Calculates and returns travel time in hours
- `calculateFuelNeeded()`
 - Calculates and returns gallons of fuel needed
- `calculateTripCost()`
 - Calculates and returns total cost in dollars
- `displayResults()`

- Displays formatted output showing all three values

2. Main Method Requirements:

- Get user input for:
 - Trip distance (miles)
 - Average speed (mph)
 - Fuel efficiency (miles per gallon)
 - Fuel price per gallon (\$)
- Call all three calculation methods and store their return values
- Call the `displayResults()` method to show the results
- Close the Scanner

3. Method Signatures:

- All methods must be `public static`
- Return methods must have return type
- Display method should output results
- Use appropriate parameter types

Example Calculations

Example 1:

- **Input:** 300 miles, 60 mph, 25 mpg, \$3.50/gal
- **Travel Time:** 5.00 hours
- **Fuel Needed:** 12.00 gallons
- **Trip Cost:** \$42.00

Example 2:

- **Input:** 500 miles, 70 mph, 30 mpg, \$4.00/gal
- **Travel Time:** 7.14 hours
- **Fuel Needed:** 16.67 gallons
- **Trip Cost:** \$66.67