10 problem-solving questions involving the `switch` statement in Java

###Basic Problems

** .1Day of the Week**:

Write a program using a `switch` statement that takes an integer input (1-7) and prints the corresponding day of the week (e.g., 1 = Monday, 2 = Tuesday, etc.). Handle invalid inputs with a default case.

** .2Simple Calculator**:

Create a simple calculator using a `switch` statement that performs addition, subtraction, multiplication, or division based on the operator (`+`, `-`, `*`, `/`) provided by the user.

** .3Month Name**:

Write a program that takes an integer (1-12) as input and uses a `switch` statement to print the name of the corresponding month. If the input is outside the range, print an error message using the `default` case.

** .4Grade Evaluation**:

Implement a program where you input a letter grade (A, B, C, D, F), and the program outputs the corresponding message (e.g., A = "Excellent", B = "Good", etc.) using a `switch` statement.

###Intermediate Problems

** .5Vowel or Consonant**:

Write a program that takes a character input and determines whether it is a vowel (`a, e, i, o, u`) or a consonant using a `switch` statement. Handle both uppercase and lowercase inputs.

** .6Traffic Light Simulator**:

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Create a traffic light simulation using a `switch` statement. Based on the input (`R`, `G`, `Y`), print "Stop", "Go", or "Slow down", respectively. Use the `default` case to handle invalid inputs.

** .7Season Finder**:

Write a program that takes an integer input representing a month (1-12) and uses a `switch` statement to print the season (Winter, Spring, Summer, Autumn) based on the input.

** .8Calculator with `int` Inputs**:

Modify the simple calculator in question 2 to handle integer division correctly (i.e., avoid dividing by zero). Use the `default` case to display an error if the user tries to divide by zero.

 ###Advanced Problems

** .9Menu-driven Program**:

Create a menu-driven program that uses a `switch` statement to provide different functionalities. For example, the user chooses between converting temperatures (Celsius to Fahrenheit), finding the factorial of a number, or checking if a number is prime.

** .10Enum-based Days of the Week**:

 Define an enum for the days of the week, and write a program that uses a `switch` statement to print whether a day is a weekday or weekend based on the enum value (e.g., Monday-Friday = weekday, Saturday-Sunday = weekend).

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