CS23304 JAVA PROGRAMMING

Course Instructor: V P Jayachitra

WEEK 3

Instruction:

- **Use meaningful variable names**
- **Consistent indentation**
- **Proper error handling**
- **Proper comment to follow the question requirement**

I. Iteration statements and Jump statements

Write a Java program for a menu-driven number guessing game where the secret number is fixed (e.g., 45). The menu offers three options:

1. **Play Game**
2. **View Status**
3. **Quit.**

In Play Game:

The user guesses numbers between 1 and 100, with up to 10 tries. After each guess, the program indicates if it's too high, too low, or correct. The user can enter -1 anytime to quit the current game. Invalid guesses (outside 1–100) should be ignored and not count as attempts.

In View Status:

This shows total games played, total guesses, and average guesses per game, or a message if no games played.

Hint:

Use labeled loops with break and continue statements to manage menu navigation and guess handling

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II. Instance variables, static variables, constructors, `this` keyword, method

Create a GameAthlete class with

Instance variables:

- **name**
- **energy**
- **skillPower**
- **maxEnergy**
- **isActive**

Static variable:

totalAthletes

A default constructor (name="Player", energy=100, skillPower=10) and parameterized constructor

Methods:

- **compete(GameAthlete opponent) - reduces opponent's energy by skillPower**
- **rest(int amount) - increases energy (athlete takes a break to recover)**
- **train() - uses java.util.Random; Random random=new Random(); random.nextInt(11); (gains random skill points 0-10)**
- **displayStats() - shows athlete information**

Write a main method to create 3 athletes, make them compete in friendly matches, rest to recover energy, train to improve skills, and display the total athlete count.