Dart Coding Exercises

1. Variables, Data Types & Print Statement
Create a Dart program that declares and initializes the following variables:
- Your name (String)
- Your age (int)
- Your height (double)
- Whether you are a student (bool)
Then, print these values using a single print statement.

2. Arithmetic Operators, Conditional Statements & Functions
Write a function `calculateBonus(int salary, int yearsWorked)` that calculates a bonus based on the following rules:
- If the employee has worked for 5 or more years, they get a 10% bonus.
- Otherwise, they get a 5% bonus.
The function should return the bonus amount.
Then, call the function inside `main()` and print the result.

3. Lists, Loops & If Conditions
Create a list of numbers. Iterate over the list and:
- If a number is even, print "Even: <number>".
- If a number is odd, print "Odd: <number>".

4. Maps, Functions & User Input
Create a Dart program that:
- Declares a `Map<String, int>` where keys are fruit names and values are their prices.
- Implements a function `getPrice(String fruitName)` that returns the price of a given fruit.
- If the fruit is not found, return -1.
Call the function inside `main()` and print the result.

5. Sets, Functions & Return Statement
Write a function `uniqueNames(List<String> names)` that:
- Accepts a list of names.
- Returns a Set containing only unique names.
Call the function inside `main()` and print the result.

6. Null Safety, Encapsulation & Classes

Create a class `Person` with the following attributes:
- `String name`
- `int? age` (nullable)
- `bool isStudent` (default is false)
Implement:
- A constructor that initializes `name` and `age`.
- A method `displayInfo()` that prints the person's details.
In `main()`, create an instance of `Person` and call `displayInfo()`.

7. Loops, Conditional Statements & Logical Operators
Write a program that prints the numbers 1 to 20 but:
- If a number is divisible by 3, print "Fizz".
- If a number is divisible by 5, print "Buzz".
- If a number is divisible by both 3 and 5, print "FizzBuzz".

8. Switch Case, Functions & Default Values
Write a function `getDayType(String day)` that:
- Uses a switch case to return "Weekend" if the day is "Saturday" or "Sunday".
- Returns "Weekday" otherwise.
- If the input is invalid, return "Invalid day".
Call the function inside `main()` and print the result.

9. OOP, Constructors & Getters
Create a class `Rectangle` with:
- Private attributes `_width` and `_height`.
- A constructor that initializes the values.
- A getter `area` that calculates and returns the area.
In `main()`, create a `Rectangle` object and print its area.

10. For-Each Loop, Lists & String Manipulation
Create a list of 5 words.
- Iterate through the list using a for-each loop.
- Convert each word to uppercase.
- Print each word in uppercase.