**Practice Worksheet # 1**

**(Covering Topics till Lecture# 5)**

**Question# 1:** How would you declare a Map that stores the names of students (as strings) and their corresponding ages (as integers)?

**Question# 2:** Writea small Dart program that iterates over the Map from the previous question and prints each student's name and age.

**Question# 3: Variable Declaration and Printing**

Declare a String variable named [productName] and assign it the value "Laptop".

Declare a double variable named price and assign it the value 1200.50.

Declare a int variable named quantity and assign it the value 3.

Print a single sentence that includes all three variables, for example: "We have 3 Laptops available for $1200.50 each."

**Question# 4: if-else Conditional Logic**

Create a program that checks a user's age.

Declare an *int* variable named *userAge* and set it to a value of your choice (e.g., 17).

Use an if-else statement to check if the *userAge* is 18 or older.

If they are 18 or older, print the message "You are eligible to vote.".

Otherwise, print "You are not yet eligible to vote.".

Change the *userAge* and test both branches of your if-else statement.

**Question# 5: 'For' Loop**

Write a program that prints all the even numbers from 1 to 20.

Use a for loop to iterate from 1 up to and including 20.

Inside the loop, use an if statement with the modulo operator (%) to check if the current number is even.

If it is, print the number.

**Question# 6: const vs. final**

Declare a *const* variable for the value of *pi*: const pi = 3.14159;.

Declare a final variable for the current date and time: final now = *DateTime.now();.*

Try to reassign both variables. What happens? Add a comment to your code explaining why it happens. For example, pi = 3.14; // This will cause an error because const variables cannot be reassigned.

**Question# 7: Nested if-else Statements**

Write a program that determines a student's grade based on their score.

Declare an int variable named score and set it to a value of your choice (e.g., 85).

Use a series of nested if-else statements to check the score against the following criteria:

- If the score is 90 or above, print "Grade: A".

- If the score is between 80 and 89, print "Grade: B".

- If the score is between 70 and 79, print "Grade: C".

- Otherwise, print "Grade: F".

**Question# 8: while Loop and User Input**

(This problem is a bit more challenging and requires a simple concept that may not be in the first few lectures: getting input. You can just simulate the input with a hardcoded value if you prefer.)

Write a program that calculates the sum of all numbers from 1 up to a given number.

* Declare an int variable maxNumber and set it to 5.
* Declare an int variable sum and initialize it to 0.
* Use a while loop that continues as long as maxNumber is greater than 0.
* Inside the loop, add the maxNumber to sum, then decrement maxNumber.
* After the loop, print the final value of sum. (The answer for maxNumber = 5 should be 15).