Java Basics Cheat Sheet

1. Java Basics

- Java is object-oriented, platform-independent, and strongly typed.
- Main method syntax:
  ```
  public static void main(String[] args) { }
  ```

2. Data Types

- int, float, double, char, boolean, byte, short, long
- Example: int age = 25; boolean isJavaFun = true;

3. Control Statements

- if-else, switch, for, while, do-while loops
- Example:
  ```
  if (age > 18) {
    System.out.println("Adult");
  }
  ```

4. Arrays

- int[] arr = {1, 2, 3};
- Access: arr[0];

5. OOP Concepts

- Class & Object, Inheritance, Polymorphism, Abstraction, Encapsulation
- Example:
  ```
  class Car { void drive() { } }
  class SportsCar extends Car { }
  ```

6. Exception Handling

- try-catch-finally
- Example:
  ```
  try {
    int x = 1/0;
  } catch (Exception e) {
    System.out.println("Error");
  }
  ```

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7. Strings

```
- String str = "Hello";
- str.length(), str.toUpperCase()
```

8. Collections

```
- List, Set, Map (from java.util package)
- Example:
  List<String> list = new ArrayList<>();
  list.add("Apple");
```

9. Input in Java

```
- Scanner sc = new Scanner(System.in);
- int num = sc.nextInt();
```