

## 1. Variable declarations and initialization

These are short notes and example code for declaration and initialization in Java, C#, Python, and PHP.

- Java

In Java you declare and initialize variables with a specific data type.

Variables must be declared before use.

```
int age; // Declaration
```

```
age = 20// Initialization
```

- C#

C# requires specifying the data type when declaring variables and can be initialized at the same time.

```
int age; // Declaration
```

```
age = 30; // Initialization
```

- Python

Python is dynamically typed, meaning specifying data types are not needed. You can declare and initialize variable in one step.

```
age = 30 # Declaration and Initialization
```

- PHP

PHP is loosely typed, so you don't need to specify data types explicitly.

Variables can be declared and initialized in one step.

```
$age = 30; // Declaration and Initialization
```

In all these programming languages, variables can be declared to store different types of data, and you may initialize them at the time of declaration or later in your code. The choice of which language to use mostly depends on the specific requirements of your project and your familiarity with the language.

## 2. Decision Statements

These are short notes and example code for decision statements(if statements) in Java, C#, Python, and PHP.

- Java

In Java, you use the 'if' statement for decision making. It allows you to

execute a block of code based on a condition.

```
int age = 25.
```

```
if (age >= 18) {
```

```
    System.out.println("You are not a teenager")
```

```
} else
```

```
}
```