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**DEPARTMENT: Software Engineering**

1. Differences between Native system, web system and Hybrid System.

i. **Native Systems:**

Native applications are built specifically for a particular platform or operating system using the platform's native programming language e.g. Java/Kotlin for Android, swift for IOS applications. Development for each platform requires separate codebases, meaning that developers need to create and maintain separate versions for iOS and Android. Native development provides greater flexibility and control over the application's features and functionality.

ii. **Web Systems:**

Web Systems are accessed through a web browser and do not require installation from an app store. Users can access them via URLs on the internet. They are built using web technologies such as HTML, CSS, and JavaScript. Web apps are platform-independent, which means they can be accessed from various devices with different operating systems (e.g., Windows, macOS, Android, iOS).

iii. **Hybrid Systems:**

Hybrid Systems are a combination of native and web applications. They are built using web technologies (HTML, CSS, and JavaScript) but are wrapped inside a native container that allows them to be installed and run like native apps. Development for hybrid apps involves maintaining a single codebase, similar to web apps, but with the added benefit of some access to native device features.

1. Differentiate between Mutable and Constant variables

**Mutable Variable** is a variable whose value can be modified during the execution of a program.

**Constant Variable** is a variable also known as an immutable variable, is a variable whose value cannot be changed after it is initially assigned.