Assignment 1

Google Queries

* choosing programming language for a project
* Technology Stack
* Technology stack examples
* choosing database for web application
* Top databases 2020
* Kidzie
* MOneris
* What is an api
* golang and moneris api issue
* moneris api features
* choosing api programming language
* structured vs unstructured data
* best programming language for financial applications
* cross platform programming languages
* Best IDE softwares
* choosing libraries for project
* cross platform programming language for mobile apps
* phonegap vs xamarin
* xamarin libraries for live radio feed
* best programming language for rbac software

Technology Stacks

Scenario 1

Proposed Set 1:

1. Database: PostGre SQL because it is ACID compliant and very secure which makes it a great solution for financial applications.
2. Operating system and IDE: Windows using Netbeans IDE because it provides Java developers with all the tools needed to create professional desktop enterprise applications.
3. Programming language/languages: Java
4. Libraries: J2Pay because it is open source and supports multiple gateways using single api.

Proposed Set 2:

1. Database: PostGre SQL because it is ACID compliant and very secure which makes it a great solution for financial applications.
2. Operating system and IDE: Windows using Eclipse IDE because it allows Git integration and has a large number of plugins and extensions.
3. Programming language/languages: Ruby
4. Libraries: Activemerchant because it is very simple, popular for use in financial transactions, and allows us to access dozens of different payment gateways

Scenario 2

Proposed Set 1:

1. Database:Couchbase lite because it is highly scalable and very secure. It also provides native APIs for android and IOS.
2. Operating system and IDE: IOS and Android
3. Programming language/languages: Swift for IOS and Kotlin for Android
4. Libraries: Android: Exoplayer because it is open source and support streaming over HTTP and smoothstreaming.

IOS: FRadioPlayer because it allows internet radio streaming and playback.

Proposed Set 2:

1. Database: Couchbase lite because it is highly scalable and very secure. It also provides native APIs for android and IOS.
2. Operating system and IDE: Windows /IOS/Android
3. Programming language/languages: C# and .Net
4. Libraries: [Xamarin.Forms-Music-Streaming](https://github.com/pakbaz/Xamarin.Forms-Music-Streaming) for online radio streaming
5. Platform: Xamarin because it builds cross platform apps for both IOS and Android.

Scenario 3

Proposed Set 1:

1. Database: MySQL because it is a free and open-source database system that has a huge user base and great support, and it works well with most libraries and frameworks.
2. Operating system and IDE: Windows because it is compatible with C#
3. Programming language/languages: C# using .Net Core framework because it provides plenty of libraries for role-based access control and user authentication and authorization.
4. Libraries:

* GateKeeper to provide role-based access control and manage roles
* ASP.Net Core 3.1 to provide authorization based on role-based access control
* Jwt.NET to provide JWT access tokens

Proposed Set 2:

1. Database: database/sql package available for golang
2. Operating system and IDE: Windows/ MacOS/ Linux because they are compatible with golang
3. Programming language/languages: Golang mainly because Kidzie was written in Go.
4. Libraries:

* jwt-go to provide JWT access tokens
* lite-idp for login (username & password)
* casbin because it provides authorization based on role-based access control