**Assignment - 2: Node – NodeJS**

**Q-1. What is Node.js? Where can you use it?**

**ANS**: Node.js is an open-source, cross-platform runtime environment used for development of server-side web applications.

**Q2. Explain callback in Node.js.**

**ANS:**

* callback is an asynchronous equivalent for a function.
* A callback function is called at the completion of a given task.
* For example, a function to read a file may start reading file and return the control to the execution environment immediately so that the next instruction can be executed.
* Once file I/O is complete, it will call the callback function while passing the callback function, the content of the file as a parameter.
* So, there is no blocking or wait for File I/O. This makes Node.js highly scalable, as it can process a high number of requests without waiting for any function to return results.

**Q3. What are the advantages of using promises instead of callbacks?**

**ANS:**

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| --- | --- | --- |
| **SR NO** | **Callback** | **Promise** |
| **1** | The syntax is difficult to understand. | The syntax is user-friendly and easy to read because of then and catch. |
| **2** | Error handling may be hard to manage. | Error handling is easier to manage using catch block. |
| **3** | It may create callback hell. | It resolves callback hell. |

* Improves Code Readability.
* Better handling of asynchronous operations.
* Better flow of control definition in asynchronous logic.
* Better Error Handling.

**Q4. What is NPM?**

**ANS**: npm is the world's largest Software Registry. The registry contains over 800,000 code packages.

**Q5.** **What are the modules in Node.js? Explain**

**ANS:**

Modules are of three types:

* Core Modules
* local Modules
* Third-party Modules

**Core Modules:** Node.js has many built-in modules that are part of the platform and come with Node.js installation. These modules can be loaded into the program by using the **required** function.

**Syntax**: const module = require('module\_name');

Some core modules are http,assert,fs,path,os,url etc.

**Local Modules:** Unlike built-in and external modules, local modules are created locally in your Node.js application.

**Third-party modules:** Third-party modules are modules that are available online using the Node Package Manager (NPM). These modules can be installed in the project folder or globally. Some of the popular third-party modules are Mongoose, express, angular, and react.