Q.No. 1

**a. How to Install Node.JS?**

There are different ways to install Node.js on your system, depending on your preferences and needs. Here are some of the most common and convenient ones:

* You can download the Node.js source code or a pre-built installer for your platform from the [official website](https://nodejs.org/en/download) [and follow the instructions there1](https://nodejs.dev/en/learn/how-to-install-nodejs/).
* You can use a package manager that is compatible with your operating system. For example, on Windows you can use Chocolatey, on MacOS you can use Homebrew, and on Linux you can use apt or yum. [You can find more package managers and installation commands in the Node.js documentation](https://nodejs.dev/download/package-manager/)[1](https://nodejs.dev/en/learn/how-to-install-nodejs/).
* You can use nvm, which is a popular tool to run Node.js. It allows you to easily switch the Node.js version, and install new versions to try and easily rollback if something breaks. It is also very useful to test your code with old Node.js versions. [You can find more information about nvm and how to install it in its GitHub repository](https://github.com/nvm-sh/nvm)[1](https://nodejs.dev/en/learn/how-to-install-nodejs/).

[In any case, when Node.js is installed you’ll have access to the node executable program in the command line1](https://nodejs.dev/en/learn/how-to-install-nodejs/). You can check if Node.js is installed by typing node -v in your terminal and seeing if it returns a version number. [You can also check if npm, which is the Node.js package manager, is installed by typing npm -v in your terminal](https://docs.npmjs.com/downloading-and-installing-node-js-and-npm/)2

**b. How to Install Typescript?**

TypeScript is a programming language that adds static type checking to JavaScript. It can help you write more reliable and maintainable code.

To install TypeScript, you need to have Node.js and npm (Node Package Manager) on your computer.

Once you have Node.js and npm, you can install TypeScript globally on your computer by running the following command in your terminal or command prompt:

npm install -g typescript

This will install the latest version of TypeScript (currently 5.1). To check the current version of TypeScript, you can run:

tsc -v

To use TypeScript in your project, you need to create a configuration file called tsconfig.json. This file contains the settings for the TypeScript compiler. You can create this file by running:

tsc --init

You can also customize the compiler options in the tsconfig.json file according to your needs.

To compile a TypeScript file (with the extension .ts) to JavaScript (with the extension .js), you can run:

tsc filename.ts

**c. How to Install VS Code?**

To install VS Code on Windows, you can follow these steps[1](https://code.visualstudio.com/docs/setup/windows):

* Visit the [VS Code install page](https://code.visualstudio.com/docs/setup/windows) and select the 32 or 64 bit installer.
* Run the installer (VSCodeUserSetup-{version}.exe) and follow the instructions.
* Make sure to check the Add to PATH option during installation, so you can easily open a folder in WSL using the code command.
* After installation, you can launch VS Code from the Start menu or by typing “code” in the command prompt.

[**Installation**](https://code.visualstudio.com/docs/setup/windows#_installation)

1. Download the [Visual Studio Code installer](https://go.microsoft.com/fwlink/?LinkID=534107) for Windows.
2. Once it is downloaded, run the installer (VSCodeUserSetup-{version}.exe). This will only take a minute.
3. By default, VS Code is installed under C:\Users\{Username}\AppData\Local\Programs\Microsoft VS Code.

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