**Environment Setup Assignment**

a) The first step for installing Dart on a Windows machine is to download the Dart SDK. You can do this by following these steps:

1. Visit the Dart SDK Download Page:

- Go to the official Dart website at [dart.dev](https://dart.dev/get-dart).

2. Choose the Windows Installer:

- On the "Get Dart" page, find the section for Windows and click on the "Download Dart SDK" link. This will download the Dart SDK installer for Windows.

b) Once you have the installer, you can proceed with the installation by running the downloaded file and following the on-screen instructions.

The command that verifies the Dart installation on macOS is:

D) Run Dart Doctor

c) The next step after downloading and extracting the Flutter SDK on Linux is:

D) dart --version

This command verifies that Dart is installed correctly by displaying the current version of Dart. However, this step assumes you have already set up Dart and want to verify the installation.

For setting up Flutter specifically on Linux, after downloading and extracting the Flutter SDK, you should:

1. Update Your PATH:

- Add the Flutter SDK's `bin` directory to your system's `PATH` so you can run Flutter commands globally.

2. Run `flutter doctor`:

- This is equivalent to "Dart Doctor" for Flutter, and it checks your environment for any dependencies that need to be installed.

d) The command used to run a newly created Flutter app is:

Run Flutter Doctor

**Python Installation**

The correct option you should ensure is checked during Python installation on Windows is:

A) Run the installer without any customization

However, for clarity, when running the installer, it is crucial to ensure that the option Add Python to PATH is checked. This option is usually presented on the first screen of the Python installer for Windows and ensures that Python is accessible from the command line.

The correct answer is:

C) Add Python to PATH

After ensuring Python is added to PATH during installation, you can verify the Python installation on any system by using the following command in the terminal or command prompt:

python –version

The correct command to install `pip` on macOS and Linux is:

A) By running python --version

However, to specifically install `pip`, you can use the following command:

sudo apt-get install python3-pip`

or, on some systems:

sudo easy\_install pip

The correct answer for installing `pip` using the command line on macOS and Linux is:

C) curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py

After downloading `get-pip.py`, you would run:

python get-pip.py

Purpose of a Virtual Environment in Python:

A virtual environment in Python is used to create an isolated environment for your Python projects. This ensures that each project can have its own dependencies (libraries and packages) without affecting other projects or the system-wide Python installation.

The correct answer is:

C) To separate project dependencies and avoid conflicts

MySQL Installation

The correct answer to the first step to install MySQL on Windows is:

B) Download MySQL Installer from the official website\*\*

After downloading the MySQL Installer, you can proceed with the installation and configuration of MySQL.

Setup Type for a Custom MySQL Installation:

When choosing a setup type for a custom MySQL installation, you should select:

Custom

This allows you to manually select the components and features you want to install, tailoring the installation to your specific needs.

The correct answer for the setup type you should choose for a custom MySQL installation is:

D) Custom

Products to Select During MySQL Installation:

When installing MySQL, the products you should select depend on your specific use case. Here’s a general guideline:

- MySQL Server: This is essential for running MySQL databases.

- MySQL Workbench: A graphical tool for managing MySQL databases, useful for database design, querying, and administration.

- MySQL Shell: A command-line tool for managing MySQL servers, particularly useful for advanced users.

- MySQL Connectors: Choose the connectors that are relevant to your development needs (e.g., ODBC, JDBC, Python, etc.).

The correct answer for the products you should select during MySQL installation is:

1. MySQL Server, MySQL Workbench, and MySQL Shell

Purpose of Setting a Root Password During MySQL Installation:

Setting a root password during MySQL installation is crucial because:

- Security: The root user has full administrative privileges, including the ability to create, modify, and delete databases, users, and tables. A strong root password protects your MySQL server from unauthorized access.

- Access Control: It ensures that only authorized users can manage and configure the MySQL server.

- Authentication: The root password is used to authenticate the root user when accessing the MySQL server through command-line tools or MySQL Workbench.

The correct answer regarding the purpose of setting a root password during MySQL installation is:

B) To secure your MySQL installation with a super-secret password

The correct answer for how to begin managing your database after installing MySQL is:

B) Launch MySQL Workbench and connect to your MySQL Server