1. Create a simple HTML page titled “My Hobby”, containing a heading with your hobby’s name and a paragraph describing why you enjoy it. (10pts)
2. Style the HTML page from Question 1 so that the heading is centered and is blue color. Additionally, the paragraph text should be grey. Assume that the style is in a separate file(style.css). (10pts)
3. Provide the contents of style.css (6 points)
4. Provide the tag that should be added to the <head> tag in your HTML from Question 1 to include style.css as the style file for your webpage. (4 points)
5. Explain the concept of DOM(Document Object Model) and generate a graphic view of the DOM from the webpage of Question 1. (8pts)
6. Fill the blanks. (20pts. 2 points each)

a. The ( ) tag defines a hyperlink, which is used to link from one page to another.

b. ( ) are used in responsive web design to apply different styles for different devices or screen sizes, ensuring that web content is accessible and readable on all devices.

c. A ( ) in Git captures a snapshot of your project's current state, allowing You to track changes and revert to previous versions if necessary.

d. To get a local copy of a repository (assuming you do not have one), use the ( ) command in your terminal, which creates a local copy of the repository on your computer.

e. Lists in Python can be created by placing sequences of elements within ( ) separated by commas,

f. In Python, ( ) refers to the ability to change an object after its creation. Lists are ( ), while tuples are not.

g. ( ) is the foundation of data communication for the World Wide Web, defining how messages are formatted and transmitted, and how web servers and browsers respond to various commands.

h. A ( ) is a unique identifier for each record in a table, ensuring the data’s integrity

i. Django uses an architectural design pattern called ( ) which stands for ( , , ). The idea behind the design pattern in the separation of concerns which means that each component handles a specific function when responding to requests to access web content.

j. Django provides built-in security features, including ( ) protection, which uses tokens in web forms to verify requests originating from the same site, preventing unauthorized actions.

1. Suppose you have the following diagram of a git repository track history. Explain the following steps, providing the proper git commands: (12 points, 4 points each)
2. Starting from commit B, creates a new branch called “branch1”.
3. Take a “snapshot” in E.
4. Merge it back into the main branch (hint is performed in two steps).

텍스트, 폰트, 화이트, 친필이(가) 표시된 사진

자동 생성된 설명

1. What is Django ORM, what are the advantages of using it, and what is the workflow to follow when developing web applications? (10pts)
2. Assume you are developing a Django-based web application to manage books and authors for a library. Design the Author and Book classes (models) in the models.py file of a Django project. The Author model should have fields for name (a character field with a maximum length of 100) and country (a character field with a maximum length of 50). The Book model should include fields for title (a character field with a maximum length of 200), author (a foreign key linking to the Author model), and publication\_year (an integer field). Ensure that if an author is deleted, all associated books are also removed from the database. (10pts)
3. Using the models that you created in the previous question (Author and Book), write the Python code to perform the following operations in Django: (assume all the required records exist in the database, also assume that the required classes are imported) (20pts, 4 pts each)
4. retrieve an author with author\_id=3 and then, create a new book titled "The Great Adventure" written by the retrieved author in the year 2023.
5. Save the book that you created to the database.