PRACTICE ASSESSMENT 5

Task: Using the starter repository, implement the following in TypeScript. Create three classes: an abstract parent `Webpage` and two children: `Homepage` and `BlogPost`. And create an `Author` interface. Also create four functions that use these classes and this interface.

Setup and Submission:
See readme.md for setup instructions. Commit and push to submit.

NOTE: This assessment does not ask for an index.ts or tests. However, feel free to add one or both in order to make sure your code is working.

Author Interface
In its own file, create an interface named `Author`.
- Properties:
    - `name` (a string)
    - `title` (a string)
    - `yearsExperience` (a number)
- Export this interface as the default export.

Webpage Class
In its own file, create an **abstract** class named `Webpage`. This is the parent class.
- Properties:
    - `title` (a string)
    - `contentLength` (a number)
- Methods:
    - `constructor`: Sets both properties from parameters in this order: `title`, `contentLength`.
    - **abstract** `getPath`: Takes no parameters and returns a string.
- Export this class as the default export.

Homepage Class
In its own file, create a class named `Homepage`. It is a subclass of `Webpage`.
- Properties: No additional properties.
- Constructor: Same as `Webpage`, sets `title` and `contentLength` from parameters.
- Methods: Implements `getPath` from `Webpage`. It always returns `"/"`.
- Export this class as the default export.

BlogPost Class
In its own file, create a class named `BlogPost`. It is a subclass of `Webpage`.
- Additional Properties:

- ○ author (use the Author interface for the type)
- Constructor: Takes three parameters: `title`, `contentLength`, and `author`. `title` and `contentLength` are passed to the parent constructor to set those properties. Set the `author` property from the third parameter.
- Methods: Implements `getPath` from `Webpage`. To determine the path, start with "/blog/", then append the title--but first make the title all lowercase and replace any spaces with hyphens (-). For example, if the title is "Enter the Rhinoceros", getPath would return "/blog/enter-the-rhinoceros".
- Export this class as the default export.

Functions

In another file named `functions.ts`, create the following functions and export them individually.

- `buildHomepage` - Takes two parameters, `title` and `contentLength`. It creates an instance of Homepage with those values and returns it.
- `buildBlogPostByDora` - Takes two parameters, `title` and `contentLength`. It creates an instance of BlogPost with the given title and contentLength. It also sets the author on the blog post using this information: name = Dora, title = Editor, yearsExperience = 5. Return the BlogPost instance.
- `sortPagesByTitle` - Takes one parameter, an array of `Webpage`. This array may contain a mix of `Homepage` and `BlogPost` instances. Sort the array by title ascending (A-Z). Return the array.
- `findByPath` - Takes two parameters, an array of `Webpage` and a path string. The array may contain a mix of `Homepage` and `BlogPost` instances. Find and return the `Webpage` in the array that has the given path (use the `getPath` method). If there is no match in the array, return undefined. (The return type of `findByPath` will be `Webpage|undefined`.)
- Remember to **export** all four functions.