Harry Potter Typing Trainer Version 2: Bombardo

In this version, you will add quite a few user-defined functions to your typing trainer:

In this version, your program will:

- Display header
- Display instructions
- Get user input
- Display feedback

Instructions: instructions.txt

What to do

Your program should do the following:

1. Read spells from the text file (spells.txt)

2. Display the header as follows:
```
############################################################
Harry Potter Typing Trainer
############################################################
```
(there are 60 # characters in each line)

3. Display the instructions (read the instructions from instructions.txt)

4. Choose a random spell

5. Get the user's input and compare it with the chosen spell

6. If the user typed the spell correctly, display
`Correct!`
Otherwise, display:
`Incorrect!`
`The spell was: chosen_spell`
(replace `chosen_spell` with the randomly chosen spell)

7.In this version, we don't care about the case of the user input (in other words, `CONFUNDO` or `CoNfUnDo` would be the same as `confundo`).

You need to implement the `display_header` and `display_instructions`, `get_user_input`, and `display_feedback` functions.

Use the following template. All functions defined in the template **must be present and implemented** in your code. You **cannot** change the header of the functions given in the template or omit these functions. You **may** add extra functions if needed. **You cannot change the `main` function in this version.**

```
def read_spells(filename: str) -> list[str]:
    """
    Reads a list of spells from a file and returns a list of spells.
    """
    # implemented in Version 1

def get_random_spell(spells: list[str]) -> str:
    """
    Returns a random spell from a list of spells, converted to lowercase.
    """
    # implemented in Version 1

def display_header():
    """
    Displays header as follows:
    ###############################################################
    Harry Potter Typing Trainer
    ###############################################################
    """
    # TODO: implement this function

def display_instructions():
    """
    Displays instructions from instructions.txt
    """
    # TODO: implement this function

def get_user_input(spell: str) -> str:
    """
    Gets the spell as input from the user and returns it.
    """
    # TODO: implement this function

def display_feedback(spell: str, user_input: str):
```

```
    """
    Displays feedback (correct or incorrect) to the user.
    """
    # TODO: implement this function

def main() -> None:
    """
    Main program.
    """
    spells = read_spells('spells.txt')
    spell = get_random_spell(spells)
    display_header()
    display_instructions()
    user_input = get_user_input(spell)
    display_feedback(spell, user_input)


main()
```

Hints

- A line in a file may end with a newline `\n` character. Think about how you can remove the newline character from the line.

Program name

Save your program as `spells2.py`.

Demo

https://asciinema.org/a/XM2QhgKBNnwpABVB9sDTe5LIo

Testing

To make sure your program works correctly, you should test it.

Run your program with `python spells2.py`. Your program should print the header, instructions and a random spell:

```
############################################################
Harry Potter Keyboard Trainer
```

```
############################################################
Welcome to Harry Potter Typing Trainer!
Your goal is to type the spells you see as fast as possible.
Type fast and get more points!
Good luck!
Type the following spell: diminuendo
```

Type the spell correctly. The program should print:

```
Correct!
```

If you type the spell incorrectly, the program should print:

```
Incorrect!
The spell was: diminuendo
```

Submitting

Submit `spells2.py` via eClass.

You may submit either all versions you complete, or only the final version.