Project 0: `eighty`

Summer of Programming 2021
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1 Introduction

Welcome to *DIKU Summer of Programming* 2021! During this "course", we will be providing you with some small programming exercises called *projects* to keep your skills sharp over the summer. The primary programming language will be C#, although there are no hard restrictions on language. If you are feeling adventurous, you might even try to do these projects in C, in order to prepare for the Computer Systems course.

For this first project, you will be writing a small program, `eighty`, which reads through a given file and warns the user about lines exceeding 80 characters.

2 Setup (C#)

To setup the project, create a new directory `eighty`, enter it, and then write

```
$ dotnet new console
```

You can now write your code in the `Program.cs` file. To compile and run the program, use

```
$ dotnet run
```

For this project, you will be providing the name of the file to be checked from the command line. If, for example, you would like to check that `Program.cs` has no lines exceeding 80 characters, you can write

```
$ dotnet run Program.cs
```

3 `eighty` **specification**

In the following specification, the return value refers to the return value of the `main` *function. By convention, 0 indicates success, and anything else indicates failure.*

For this project, create a program `eighty` with the following functionality:

3.1. If the program receives no argument, then it must print

```
Please provide a filename.
```

and return 1.

3.2. If the file provided could not be opened, it must print

```
Could not open file.
```

and return 1.

3.3. For each line in the file, if the line exceeds 80 characters, print

```
Line x is too long! (y characters)
```

where x is the line number and y is the line width.

3.4. After checking each line, the program must return 0.

3.1 Possible extensions

• Allow the user to specify a different max line length from the command line.

• Allow the user to provide multiple files instead of just one.