

Learning to Program with F#  
Exercises  
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## 0.1 Web

### 0.1.1 Teacher's guide

**Emne** Input/output from the web

**Sværhedsgrad** medium

### 0.1.2 Introduction

The internet is a great source of information, and many files are published as html-files. In the following assignment(s), you are to work with html-files on the internet.

Note that most internet pages requires a valid certificate before they will allow your program to access it. By default, Mono has no certificates installed. One way to install useful certificates is to use mozroots, which is a part of the Mono package. On Linux/MacOS you do the following from the console:

```
mozroots --import --sync
```

On Windows you type the following (on one line)

```
mono "C:\Program Files (x86)\Mono\lib\mono\4.5\mozroots.exe" --import  
--sync
```

Note that your installation of mozroots may be in a different path, and you may have to adapt the above path to your installation. After running the above, your program should be able to read most pages without being rejected.

### 0.1.3 Exercise(s)

**0.1.3.1:** Make a program with the function,

```
printWebPage : url:string -> string option
```

which reads the content of the internetpage url and returns its content as a string option.

**0.1.3.2:** In the html-standard, links are given by the <a></a> tags. For example, a link to Google's homepage is written as <a href="http://google.com">Press to go to Google</a>.

Make a program countLinks which includes the function

```
countLinks : url:string -> int
```

The function should read the page given in url and count how many links that page has to other pages. You should count by counting the number of <a substrings. The program should take a url, pass it to the function and print the resulting count on the screen. In case of an error, then the program should handle it appropriately.