EECS498-003 - Lab 1

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Office Hours

- When: Monday 5pm-6:30pm
- Where: TBD, will announce on Piazza

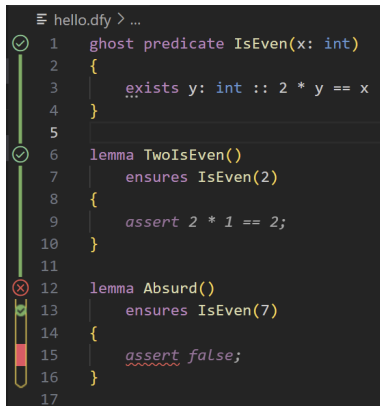# Labs

Labs will mostly be:

- interactive exercises and practice
- another form of office hours

Dafny

Dafny can be run as a:

- ▶ VSCode extension

Dafny

Dafny can be run as a:

▶ CLI tool

Installation

Prerequisite: .NET SDK

- ▶ Instructions at
  https://learn.microsoft.com/en-us/dotnet/core/install/
- ▶ Verify .NET is installed: `dotnet --version`

Installation

Installing Dafny 4.11 (latest as of this lab)

- ▶ Instructions at `https://dafny.org/latest/Installation`
- ▶ VSCode extension: from marketplace
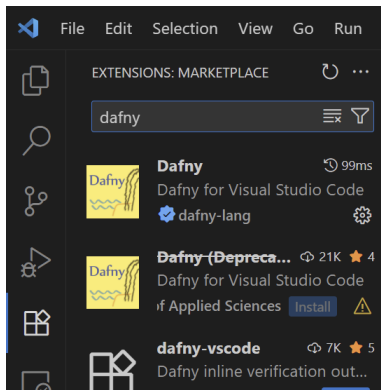
- ▶ If installing binary, to verify Dafny is installed: `dafny --version`

Testing

Get `hello.dfy` from the GitHub repository.

▶ extension should look like


```
☰ hello.dfy > ...
⊘  1    ghost predicate IsEven(x: int)
   2    {
   3        exists y: int :: 2 * y == x
   4    }
   5
⊘  6    lemma TwoIsEven()
   7        ensures IsEven(2)
   8    {
   9        assert 2 * 1 == 2;
  10    }
  11
⊗ 12    lemma Absurd()
  13        ensures IsEven(7)
  14    {
  15        assert false;
  16    }
  17
```

Testing

Get `hello.dfy` from the GitHub repository.

- ▶ CLI should look like

Troubleshooting

- The extension complains about .NET even after install.
  - Clear the setting Dafny: Dotnet Executable Path in VSCode settings.
  - Make sure your dotnet installation is in your PATH.
- The extension attempts to auto-download the Dafny binary and fails.
  - Download the binary yourself,
  - set the VSCode setting "Dafny: Version" to custom,
  - and set the VSCode setting "Dafny: Cli Path" to the path of the Dafny executable file.