CS1203 Assignment 7

Fall 2020
Due **Monday November 16th** before **4pm Atlantic** in the Desire2Learn dropbox.

Note: All answers need to be contained in a single document using a word processor. The first page of the document must be a title page (see sample posted in D2L). Once you have finished your document, save the document as a PDF file. **Submit the PDF file** to the appropriate drop box on Desire2Learn. Name your document as follows: **CS1203_YourName_A7**

1. Compare and contrast an assembler, a compiler, and an interpreter. Provide at least 3 comparisons that explain how they are different or the same for each comparison and include all three (assembler, compiler, and interpreter) in your explanation for each comparison.

2. A brief introduction to Prolog. For this question you will learn the basics of writing Prolog. You will be using SWI-Prolog https://swish.swi-prolog.org/ to write you Prolog program and queries. When you visit the SWI-Prolog site start by creating a program by clicking on the 'Program' button. You should see three windows. Write the Prolog facts in the left-hand window. Save the file by clicking on the 'File' option in the top menu and selecting 'Save'. A window will pop up and you can simply click the 'Save Program' button and a random name will be selected for your program (it doesn't matter what the program is called). In the right-hand bottom window is where you will write the queries you want to ask. Note that the ?- is the command prompt and should not be included in your actual query. Once you have written your query click the 'Run' button in the bottom right corner and in the top right-hand window you should see the response. When you make changes to your program make sure you save again (click 'Update Program' in the window that appears when you select 'Save' from the 'File' menu).

   TODO:
   Using the online lecture notes:
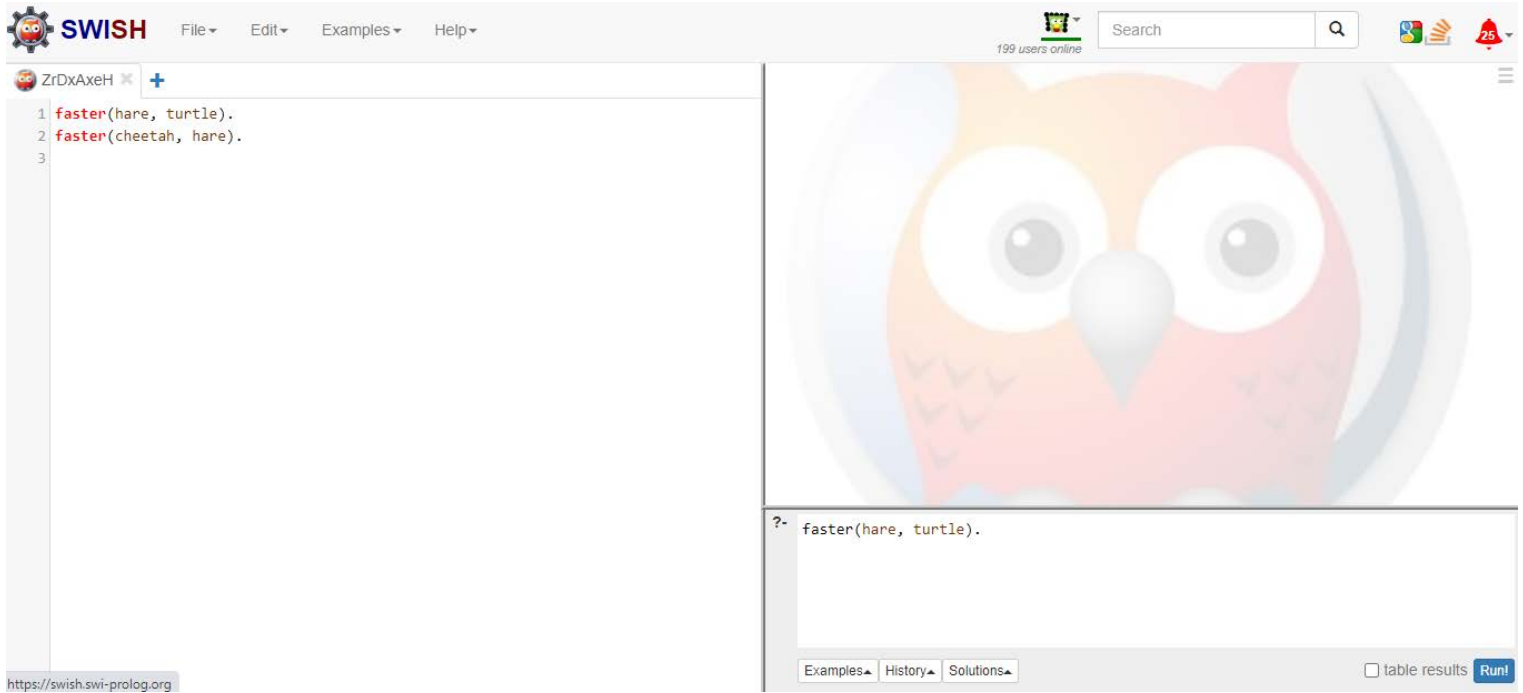   https://staff.fnwi.uva.nl/u.endriss/teaching/prolog/prolog.pdf
   Complete the example in Chapter 1.1 – take screenshots of your program and the results of the queries as you go through each step of the example.
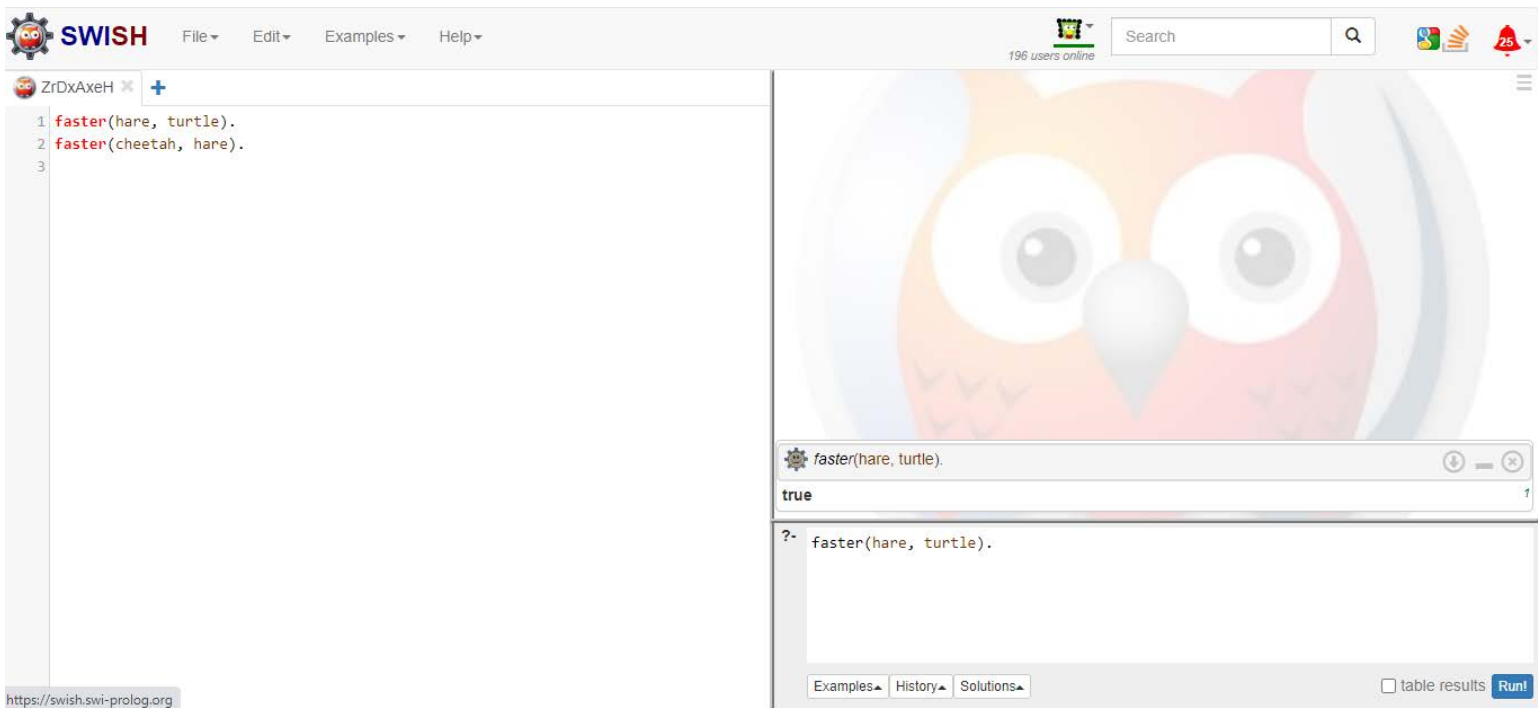
   Note: on page 4 it states: "… we can press the semicolon key, which will cause Prolog to search for alternative solutions to our query." - to do this using online interpreter click the 'Next' button that appears in the window that contains the result of the first query.

   On the next 2 pages are some examples of screenshots of a sample program and queries.

Below are some screen shots of what your windows should look like:

After you click 'Run' you should see the following:

Another example of a query:

```
1  faster(hare, turtle).
2  faster(cheetah, hare).
3
```

faster(hare, turtle).
true   1

faster(cheetah, turtle).
false

?- faster(cheetah, turtle).

Examples▲ History▲ Solutions▲   ☐ table results Run!