Source Control Control System (SCCS) ... by: Ehsan Kourkchi (ehsan20@hawaii.edu)

This system is used to store and control different version of a program or a set of codes when a package is under developing. SCCS forms a library like framework in which the user can put any file related to the project. This functionality is quite worthwhile when people work in a team and sometimes a source code is updated by several developers. SCCS prevents multiple programers works on the same source code at the same time. It also keep any previous version of the file to enable the developers to keep track of the revision flows.

The most important features of sccs are as following:

1) When the user is going to edit the SCCS file, he/she has to check out the file form the sccs library. In that case, a writable version of the file will be provided for the user and the checked out file becomes unavailable to the other users.

2) When a file is check in to the SCCS library, it is saved a new version of the existing file. The existing file will not be removed for possible future references. In the checking process, user will be ask to write up some general comments about the recent c on the file.

3) User is able to have access to all different version of a file and edit them and put them back into the SCCS library.

4) The back history of each file is stored and available. Therefore, the user can track all changes on the files and how the source code is developed.

5) User(s) can always compare different version with each other to see what really has been changed from one version to another.

Basic commands:

To test how the SCCS works, first copy all of your project files into a folder called `myProject`. Then change the directory to `myProject`.

- `$ pwd`
  `/home04/e/ehsan20/myProject`
- `$ ls`
  `HW06.c`

- Creating an sccs library. Filename is `HW06.c` in my example.
  `$ sccs create <filename>`
- $ ls
  `,HW06.c  HW06.c  SCCS`
  `,HW06.c` is a writable copy of the original file and can be deleted from the library. `HW06.c` is now read-only and cannot be modified unless it is check out from the library. `SCCS` folder contains all extra information bout the existing files in this SCCS library, their versions and all history information.

- Checking out the file for reading. First go to the other directory outside of the created sccs library, in order to work with the files.
  $ `ls`
  `/home04/e/ehsan20`
  $ `sccs get myProject/HW06.c`
  This checks out the HW06.c just for reading. You can see this file in your current folder. You can delete it after you are done with this file and it doesn't affect your library
- Getting a file for editing.
  $ `sccs get -e myProject/HW06.c`
  In this case the latest version of `HW06.c` will be checked out from the library and is appeared in your current folder. It is editable and you must check it in again after you are done with editing. Once you are editing this file no other user can check out this file from the library.
- Checking in the file.
  $ `pwd`
  `home04/e/ehsan20`
  $ `ls`
  `HW06.c  myProject`
  `HW06.c` is edited now and we are going to check it in SCCS library in `myProject` folder.
  $ `sccs delta myProject/myProject`
  SCCS will move `HW06.c` into the myProject SCCS library after asking the user to enter the comment about the changes. The `HW06.c` will be stored under v1.2 version. The original file is remained unchanged under the version number of v1.1.

- Checking out a desired version of a file (see the below example)
  $ `sccs get -e -r1.5 myProject/HW06.c`
  In this case, the version 1.5 of HW06.c will be checked out for editing.

- See the recorded history of each file in the library
  $ `sccs prt myProject/HW06.c`
  In this case a list of all versions and the users who have changed the file will be displayed on the screen.

- To see the information about the files that are currently being edited you can use the following command:
  $ `sccs info myProject/HW06.c`
  `HW06.c: being edited: 1.3 1.4 ehsan20 13/10/14 16:00:49`

For more information about the useful command and their functionalists you can see here[1] or Oracle SCCS page[2] or any other relevant online information.

1 http://unixhelp.ed.ac.uk/utilities1/sccs.html
2 http://docs.oracle.com/cd/E19504-01/802-5880/6i9k05dhp/index.html