Instruction Sheet for DWSIM

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1 Online / Offline content

1. The online content of Spoken Tutorials can be accessed from : https://spoken-tutorial.org/tutorial-search/
2. You can also download the Spoken Tutorials for offline learning from : https://spoken-tutorial.org/cdcontent/
3. From this link download the FOSS categories in the language you wish to learn.
4. The Spoken Tutorial content will be downloaded as a zip file on your machine.
5. Extract the contents of the zip file & access them.

2 The procedure to practise

1. You have been given a set of spoken tutorials and files.
2. You will typically do one tutorial at a time.
3. You may listen to a spoken tutorial and reproduce all the steps shown in the video.
4. If you find it difficult to do the above, you may consider listening to the whole tutorial once and then practise during the second hearing.

3 Side-by-Side learning video (only for offline content)

1. Go to the folder named `spoken` on your machine.
2. Locate `index.html file`.
3. Open this file with either `Firefox or Chrome web browser`.
4. The `Side-by-Side learning` video will appear. This video will explain how to learn from the spoken tutorials.
5. Click on the `Play` button to play the video.
6. Note all the steps explained therein.

4 DWSIM

1. Click on `"Select FOSS"` or `"All FOSS Categories"` drop-down and choose `"DWSIM"`.
2. Click on `"Select Language"` drop-down or `"All Languages"` drop-down and choose the language (English).
3. Click on `"Submit"` or `"Search"` button.
4. You will see a list of tutorials based on your selection.
5. Start with the first tutorial in the displayed list.

5 General Instructions for DWSIM

In DWSIM 6.1 or higher version, you may find some variation in the interface.

1. `"New Steady-State Simulation"` option is renamed as `"New Process Simulation Model"`.
2. `"Nested Loops (VLE)"` is the default flash algorithm. One can change the flash algorithm in an existing simulation by going to `Settings >> Thermodynamics tab`.
3. `"Flowsheet Objects"` are moved to bottom of the canvas. Material stream is present under `"Streams"` tab.
4. To enter `"Composition"`, go to `"Compound Amounts"` tab in `"Input Data"`.
5. The `"Green Tick Accept Changes"` button is available as `"Accept Changes"` button in `"Compound Amounts"` tab.
6. `"CAPE-OPEN Unit Operation"` is located under `"CAPE-OPEN"` tab at the bottom of the canvas.
7. `"Reaction Manager"` has been moved from `"Tools"` menu to the `"Edit"` menu. Go to Edit >> Simulation Settings >> Reactions.

6 First tutorial: Creating a material stream in DWSIM

1. Locate the topic `"Creating a material stream in DWSIM"`.
2. This tutorial explains how to select chemical components, packages, units and specify a material stream

3. To view the tutorial, click on the `Play` icon which is located in the player.
4. At 0.52, the tutorial shows how to open DWSIM

7 Second tutorial: Introduction to Flowsheeting

1. Locate the topic `"Introduction to Flowsheeting"`.
2. This tutorial explains how to simulate a mixer and give a two phase feed
3. Click on the player and view the tutorial.
4. Adjust the size of the browser in such a way that you are able to practice in parallel.

7.1 Opening DWSIM on Ubuntu Linux OS

(a) Open terminal and type "dwsim-classic".

7.2 Opening DWSIM on Window OS

(a) DWSIM can be opened from `"Start" >> "All Programs" >> "DWSIM"`

8 Third tutorial: Shortcut Distillation

1. Locate the topic `"Shortcut Distillation"`.
2. Click on the Play icon which is located in the player.
3. The `Pre-requisite` and `Slides` will be visible below the player (only for Online contents).
4. `Outline`, `Assignments`, `Code Files` and `Additional Reading Material` are available below the player.
5. Adjust the size of the browser in such a way that you are able to practise in parallel.

8.1 Common instructions for Practise

(a) Create a folder on the `"Desktop"` with your `"Name-RollNo-Component"`. `(Eg. "kaushik-04-DWSIM").`

(b) Give a unique name to the files you save,so as to recognize it next time. `(Eg. "Practice-1-kaushik").`

(c) Remember to save all your work in your folder.

(d) This will ensure that your files dont get over-written by someone else.

(e) Save your work from time to time, instead of saving it at the end of the task.

8.2 Common instructions for Assignments

(a) Attempt all the `Assignments` as instructed in the tutorial.

(b) Save your work in your folder.

8.3 Common instructions to use Code files

(a) Click on the link `"Code files"` below the player and save it in your folder.

(b) Extract the downloaded zip file.

(c) You will see all the code/source files used in the particular tutorial.

(d) Use these files as per the instructions given in the particular tutorial.

6. Play-pause-practise the whole tutorial.
7. Once the tutorial is complete, choose the next tutorial from the playlist which is located on the right side or below the player.
8. Reproduce all the actions as shown in the video.
9. Follow all the above instructions, till you complete all the tutorials in the series.

9 Eighteenth tutorial: Custom Unit Operation using Scilab

1. This tutorial requires installation of `Scilab 5.02 or higher` in your system along with the `Scilab plug-in`. Please skip this tutorial, in case you are not connected to the internet.
2. To download the `Scilab CAPE-OPEN Unit Operation plug-in`, please go through the Additional Material link below the player.