Quick Tutorial for Schematic Entry using Altera Quartus II and DE0 board
UFRGS - Johann - October 15, 2014, updated 2022

Quartus II 64-bit

New Project Wizard

fill in dir and name (names should not contain spaces or special characters anywhere in the name, dir or path)
Do not add files

For TERASIC Altera DE0 Board:
Family: Cyclone III
Device EP3C16F484C6

Hit next next finish

Choose File > New > Block Diagram/Schematic File

Save as: name_top.bdf

Project->Add Current File

Click on Entity->name ->Settings
...settings->General->top-level-entity: name_top

Click->Insert->symbol

Click on Libraries: c:/...
Click primitives->logic-> ...

Processing > Start > Start Analysis & Elaboration

Assignments-> Pin Planner

Click on Location and dropdownlist
Choose pins according to Altera DE0 Manual (Tables 4.1, 4.2, 4.3, 4.4)
button0 - H2
button1 - G3
LED0 - J1

Inside 'Assignments->PinPlanner' select 'Processing->Start I/O ...'

Wait to finish, should report "Success".

Compilation:

Processing->Start Compilation

Simulation:

New->University Program VWF, a new window is open
Edit->Grid Size and Edit Set End Time…
Right click on the left canvas (below “Name”), select Insert Node or Bus
Click Node Finder
Click button “List"
Select ins and outs on the left, and press “>" button
Click ok, click ok again
Specify waveforms for inputs, by selecting each one and specifying either a clock or "painting" on a range of the waveform with the values of 0 or 1 (from the buttons on top.
File-> save
Simulation-> Run Functional Simulation (without delays)
(A second read-only window appears with the results)

Programming:

COnnect the board with the USB cable
Turn the board on: red button
Make sure the switch sw11 is set to "RUN"

Tools->Programmer
Hardware Setup -> USB-Blaster

If the file name in the Programmer does not show my_first_fpga_top.sof, click Add File.
Select <name_top>.spof under /output_files

Additional videos for help (2022):
Quartus II Introduction - Drawing and Compiling Circuits by Terry Sturtevant
https://www.youtube.com/watch?v=uG1GTRelG3I
Simulation: by Professor Kleitz
https://www.youtube.com/watch?v=a8JAkKhxlQI