Session 1 : Exercise

Code for download: session1_start.tar.gz

Exercise:

- Geant4 is already installed on the machines in the directory `/usr/local`. We will first call the Geant4 script to define the environment needed to build & run Geant4 application:

  ```
  export CMAKE_PREFIX_PATH=/usr/local/opt/qt5
  . /usr/local/bin/geant4.sh
  unset DYLD_LIBRARY_PATH
  ```

- Build & run the example:
  - Download the example source code session1_start.tar.gz. (The file will be saved as `session1_start.tar` in `$HOME/Downloads` directory.)
  - Untar the file:

    ```
    tar xvf session1_start.tar
    ```
  - Rename the example source code as exampleED:

    ```
    mv session1_start exampleED
    ```
  - Create the example build directory, run cmake, make and built application:

    ```
    mkdir exampleED_build
    cd exampleED_build
    cmake ../exampleED
    make
    ./exampleED
    ```

    - *You can also find the instruction at the Geant4 examples Web site how to build and run the example.*

- Get familiar with the provided code
  - You can skip `EDDetectorConstruction.cc` and `EDPrimaryGeneratorAction.cc` which will be explored later

- Get familiar with Geant4 Qt User Interface
  - Use the provided button (an arrow in a green circle) to run 1 event, observe the picture and the output in the Output window.
  - Run 1 event from the command line. You have to type this command in the Session window:

    ```
    /run/beamOn 1
    ```
  - Run 1 event via a selection of the command from the Help menu.
  - Set tracking verbose level to 1 and observe the output:

    ```
    /tracking/verbose 1
    ```

- Add printing of the event number at the begin of event and another printing about the end of event in `EDEventAction`; see `G4Event` class functions at the Geant4 documentation

Solution: session1_solution.tar.gz