Session 5 : Exercise

Code for download: session5_start.tar.gz

Exercise 5a:

- Complete implementation of the hit and sensitive detector classes for the Drift chamber (`EDChamberHit`, `EDChamberSD`) to account the following information when a charged track passed through the detector:
  - the chamber layer number
  - the time when a particle hits chamber
  - the hit global position (the position in the world volume frame)
- Hints:
  - *The code for the layer number is already implemented, add missing code for the other quantities*
  - *To check if the hits are correctly accounted, add printing of the added hit data in `EDChamberHit::Print()`*

Exercise 5b:

- Complete implementation of the sensitive detector class for the EM calorimeter (`EDEmCalorimeterSD`) to account the following information in the calorimeter hits (`EDEmCalorimeterHit`):
  - the layer number
  - the total energy deposit in the layer (= the accumulated deposit from all particles).
- Hints:
  - *In difference from Chamber hits, the Calorimeter hits are created in `EDEmCalorimeterSD::Initialize()` and updated in `EDEmCalorimeterSD::ProcessHits()`.*
    - *See also example B4/B4c how to account the energy deposit in a calorimeter.*
  - *The class `EDEmCalorimeterHit` is already implemented.*
  - To control your implementation, add printing of the calorimeter hit collection at the end of each event (in `EDEmCalorimeterSD::EndOfEvent()`, see the similar code in `EDChamberSD` class)

Exercise 5c:

- Implement drawing Chamber hits:
  - Add and implement `EDChamberHit::Draw()` function.(See `B2TrackerHit` class in `basic/B2/B2a` example).
  - Activate drawing hits in `vis.mac` macro
- Add menu in GUI using command line interface
  - Add a menu « View » in the toolbar (on apple computers, the menu bar is always at the top of the screen)
  - In this View menu, add two buttons for setting the viewPoint at Theta/Phi (0,0) and (90,0)
  - In this View menu, add a button for setting a viewPoint and ask for it (define a command without parameters)
- Explore visualization commands

Solution: session5_solution.tar.gz