Run instructions:
  – Written in python 3
  – To Run:
      – Navigate into viagogoTest directory
      – run 'python grid.py' from command line

Assumptions:
  – There is a max number of Tickets for each event
  – There is a max price for each ticket
  – Set number of events to be generated

Questions:
  – If i had to do multiple events per coordinate:

    If I had to accommodate multiple events per coordinate I would save each coordinate visited and the distance from that coordinate to the origin. When looping through the list of events, I would then check the coordinates to see if an event listed at those coordinates had already been visited. This would mean that I would not have to calculate the distance for events that had shared coordinates. Another possibility could be showing the 5 closest coordinates with events associated to them. This would introduce the possibility of more than 5 events being returned which would be something that would have to be discussed with other stakeholders.

  – If i had to do it for more events:

    There are a couple changes I would make to accommodate more events. The first would be to keep track of the 5 closest events as we are looping through the events to calculate the distance from the input coordinates. I would keep track of the furthest of the 5 closest distances and check if the current event's calculated distance was further or closer than the furthest of the 5 events. In the case that the calculated distance was closer, I would use binary search to insert the event into the list of 5 events in order. The previous furthest event would then be removed from the list and the furthest distance would be updated to whatever the new last element in the list, which would be the furthest event as well. The second change would be to keep track of the cheapest ticket for each event as they are generated. This would mean that we would not have to search for the cheapest ticket.