## K-Nearest-Neighbors (KNN) Approximation

Create a fast approximation for KNN for a given training dataset.

Each data-sample in this dataset is a 3D point (x,y,z)

**Assignment:**

* 1. Design a tree-based data structure for storing the training data. This data structure should divide the space of points into retrievable segments
  2. Constraint: Each segment must contain at most K points.
  3. Implement a function, that is given a dataset (array of 3D points), generates this data structure and fills it with the input data points
  4. Implement a method that given a point (x,y,z) in the data, returns its K approximated nearest neighbors
  5. Consider another helpful constraint for the structure, similar to #2.2 above
  6. Implement the following function:  
     For a given (x,y,z) return the average value for “z” in the containing segment
  7. Estimate performance for a call to #2.6