COMPOSITE AND STRATEGY DESIGN FOR HW8

<<Interface>> Comparable

<<Interface>> ListingComparator
+ getComparator(): Comparator
+ compare(IListing, IListing): int

ListingComparison
- ListingComparator: ListingComparator
+ sort(List<IListing>, ListingComparator.getComparator())

DescendingOrder
+ getComparator(): Comparator

Lexicographic
+ getComparator(): Comparator

DistanceOrder
+ getComparator(): Comparator

<<Interface>> IListing
+ RANK: Map
+ LAT: double
+ LON: double
+ byDescendingOrder(): Comparator<IListing>
+ byRadiusDistance(): Comparator<IListing>
+ compareTo(Term): int
+ toString(): String

child
[0...n] parent

Listing
- id: int
- propertyType: String
- roomType: String
- listingName: String
- price: double
- accommodates: int
- lat: double
- lon: double
- numReviews: int
- clique: Collection<IListing>
- score: double
- distance: double
- priceCheck: int
- distanceCheck: int
- propertyTypeCheck: int
- roomTypeCheck: int
- reviewsCheck: int
- accommodatesCheck: int
- radiusDist: double

+ checkPrice()
+ checkDistance()
+ checkReviews()
+ checkPropertyType()
+ checkRoomType()
+ checkAccommodates()
+ computeScore(): double

SearchEngineRunner
- e: Engine
- listings: List<IListing>
- s: Scanner
+ mainRunner()
+ radiusRunner()
+ suggestionRunner()

<<Interface>> IEngine
+ MAX_NUM_DISPLAY: int

Engine
- maxAccommodates: int
- maxPrice: double
- maxNumReviews: int
- epicenter: Listing
+ getListings(): ArrayList<IListing>
+ outputListings(): Collection<IListing>
+ printListings()
+ getPropertyType(): Collection<String>
+ getRoomType(): Collection<String>
+ computeDistance(): double
- getNeighbors(): int[]
+ makeGraph(): Graph
+ makeClique(): ArrayList<IListing>
+ userRank(): Map<String, Integer>

<<Interface>> Graph

GraphL
- nodeArray: Edge[]
- nodeValues: Object[]
- numEdge: int
+ init()
+ nodeCount(): int
+ edgeCount(): int
+ getValue(): Object
+ setValue()
- find(): Edge
+ addEdge()
+ weight(): int
+ removeEdge()
+ hasEdge(): boolean
+ neighbors(): int[]

Edge
+ vertex: int
+ weight: int
+ prev: Edge
+ next: Edge