UML Diagrams

DSAGraph UML Diagram

DSAGraph

- vertices: DSALinkedList
- edges: DSALinkedList
- vCount: integer
- eCount: integer
- stack: DSAStack
- queue: DSAQueue
- output: string

+ addVertex(string): none
+ addEdge(string, string): none
+ addValue(string, object): none
+ printValue(none): none
+ hasVertex(string): boolean
+ getVertexCount(none): integer
+ getEdgeCount(): integer
+ getVertex(string): DSAGraphVertex
+ getAdjacent(string): DSALinkedList
+ isAdjacent(string): boolean
+ clearVisited(none): none
+ displayAsList(none): none
+ displayAsMatrix(none): none
+ depthFirstSearch(none): none
- DFSTraverse(DSAGraphVertex): string
+ breadthFirstSearch(none): none
- BFSTraverse(DSAGraphVertex): string
+ loadFile(string): none

DSAGraphVertex

- label: string
- value: object
- links: DSALinkedList
- visited: boolean

+ getLabel(none): string
+ getValue(none): object
+ getAdjacent(none): DSALinkedL
+ addEdge(DSAGraphVertex): no
+ getVisited(none): boolean
+ setVisited(none): none
+ clearVisited(none): none
+ toString(none): string

DSAGraphEdge

- from: string
- to: string
- label: string
- value: object

+ getLabel(none): string
+ getValue(none): object
+ getFrom(none): string
+ getTo(none): string
+ setValue(object): none
+ toString(none): string

DSABSTreeTest

+ main(String[] args): none

DSAStack

- count: integer
- stack[ ]: object
- defaultCapacity: integer

+ getCount(none): integer
+ isEmpty(none): boolean
+ isFull(none): boolean
+ push(object): none
+ pop(none): object
+ top(none): object

DSAQueue

- count: integer
- queue: object
- defaultCapacity: integer

+ getCount(none): integer
+ isEmpty(none): boolean
+ isFull(none): boolean
+ enqueue(object): none
+ dequeue(none): object
+ peek(none): object

DSAListNode

+ value: object
+ next: DSAListNode
+ prev: DSAListNode

+ getValue(none): object
+ getNext(none): DSAListNode
+ getPrev(none): DSAListNode
+ setValue(object): none
+ setNext(DSAListNode): none
+ setPrev(DSAListNode): none

DSALinkedList

- head: DSAListNode
- tail: DSAListNode

+ insertFirst(object): none
+ insertLast(object): none
+ peekFirst(none): object
+ peekLast(none): object
+ removeFirst(object): none
+ removeLast(object): none
+ isEmpty(none): boolean
+ save(DSALinkedList, string):none
+ load(string): DSALinkedList

DSALinkedListIterator

- iterNext: DSAListNode
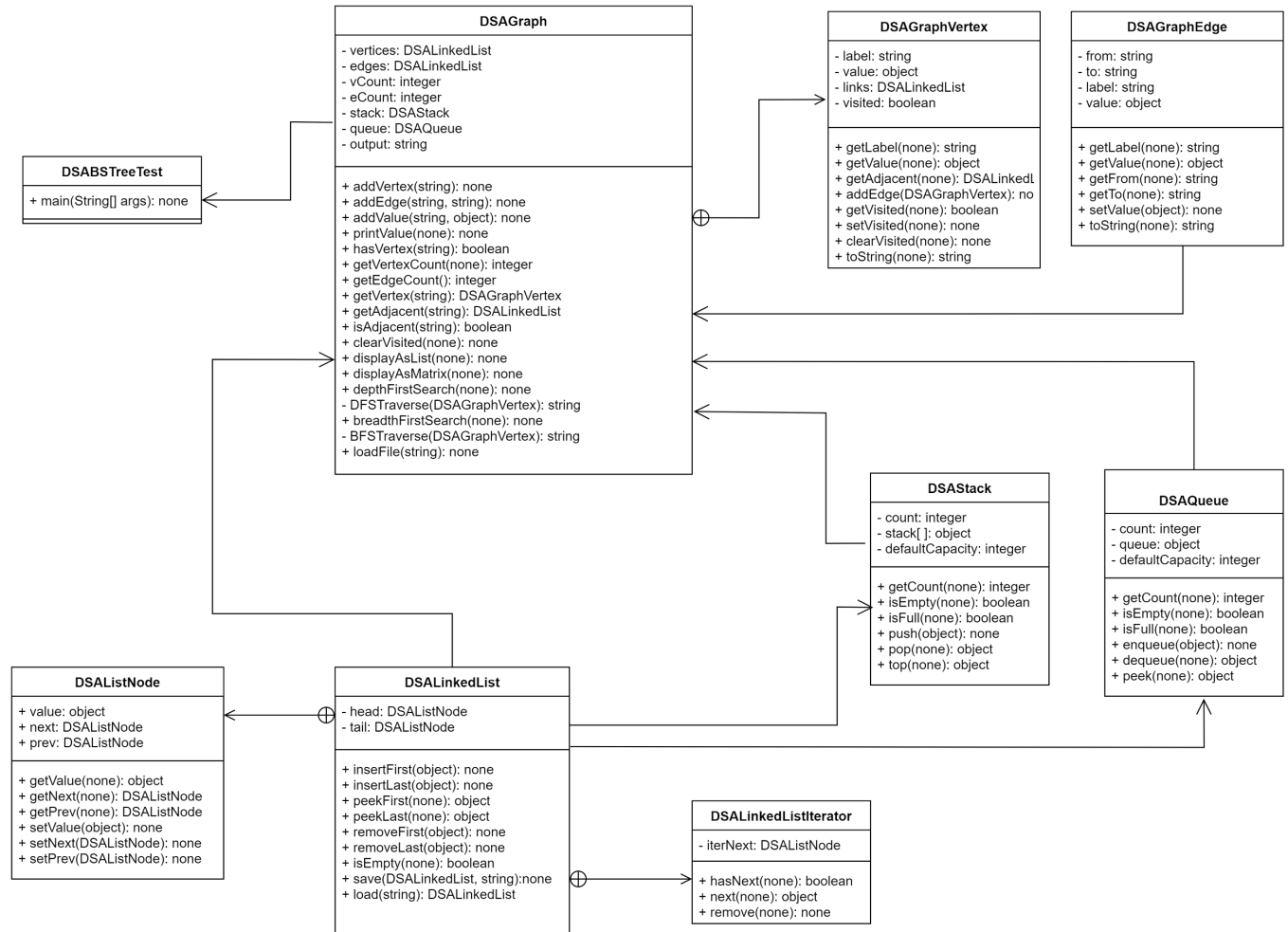
+ hasNext(none): boolean
+ next(none): object
+ remove(none): none

Activity 3

1. Depth First Search
   A->B->E->F->D->C->G

   Breadth First Search
   A->B->C->D->E->F->G

2. Depth First Search
   A->B->E->D->F->C->I->H->G->J

   Breadth First Search
   A->B->C->D->E->F->H->G->I->J