Homework 4 Flowchart

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1 Main

```
Start
```

```
App.main(String... args)
```

```
new AdjacencyList<Integer>()
```

```
adjlist.search(DepthFirstSearch.withStartingVertex(0))
```

```
adjlist.search(BreadthFirstSearch.withStartingVertex(0))
```

```
Stop
```

2 Depth-First Search

DepthFirstSearch.dfs($graph$, $visited$, $currentNode$)

Add $currentNode$ to $visited$

Does $currentNode$ have an adjacent edge?

yes

Get $adjacent$ vertex of $currentNode$

Is $adjacent$ in $visited$?

yes

no

no
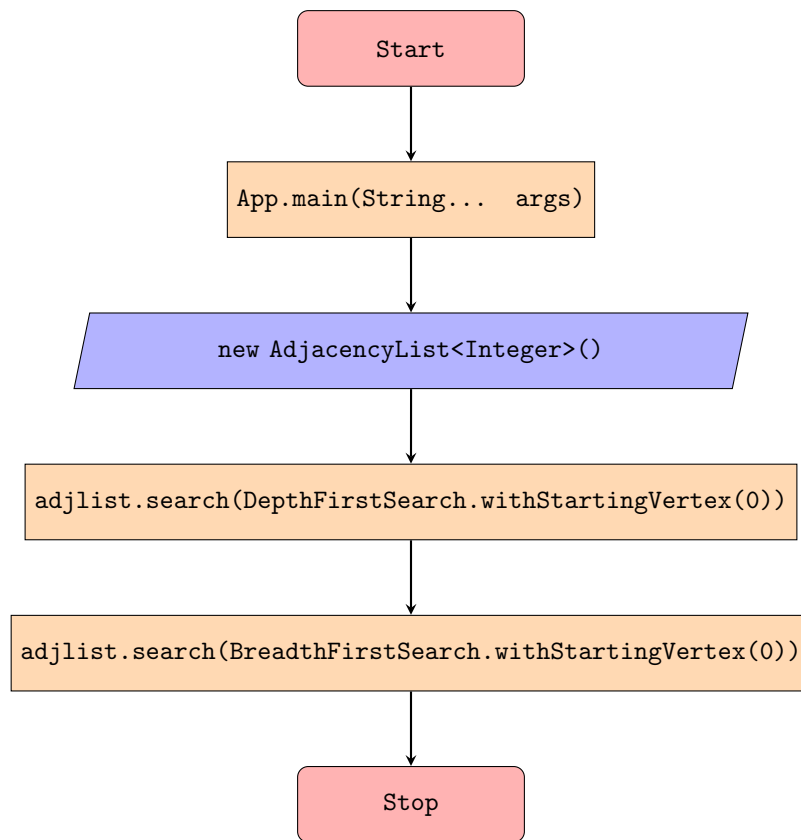
End Search
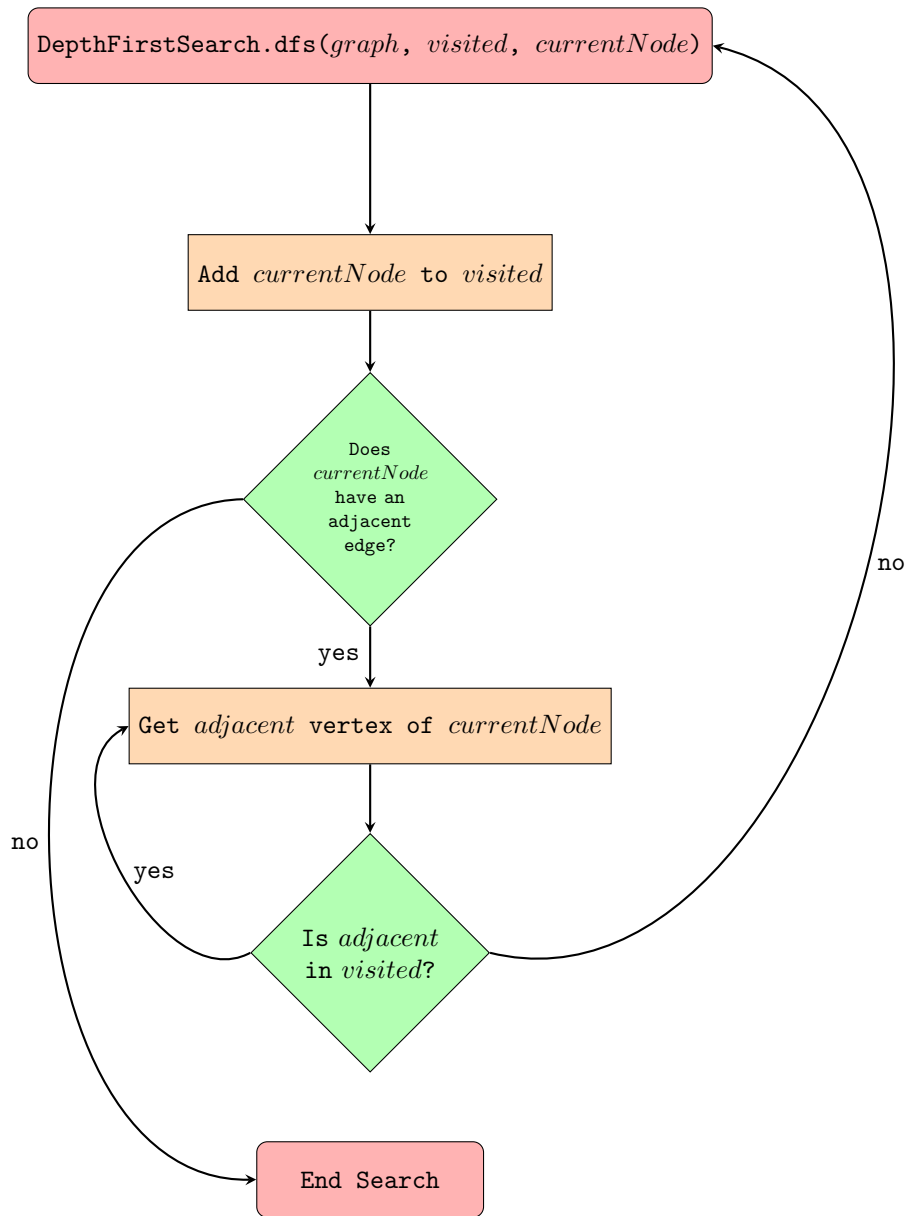
3 Breadth-First Search

The class is created with an initial $startingVertex$.

```
BreadthFirstSearch.bfs(graph, visited)
```

Add $startingVertex$ to $visited$

Enqueue $startingVertex$

Is $queue$ empty?

no

Dequeue $vert$

no

Does $vert$ have an adjacent edge?

yes

Get $adjacent$ vertex from $vert$

Is $adjacent$ in $visited$?

yes

no

Add $adjacent$ to $visited$

yes

Enqueue $adjacent$

End Search