

## Screenshot of each input file:

### 1. graphData.txt with starting vertex as 0(default)

```
The tree for the depth first search from 0 is  
( [0,0,15] ( [1,13,14] ) ( [2,1,12] ( [4,2,11] ( [6,3,10] ( [7,4,9] ( [3,5,8] ( [5,6,7] ) ) ) ) ) ) )  
  
Paths from source vertex along DFS tree edges:  
  
(0)  
(0 1)  
(0 2)  
(0 2 4 6 7 3)  
(0 2 4)  
(0 2 4 6 7 3 5)  
(0 2 4 6)  
(0 2 4 6 7)  
No path from source vertex to vertex 8.  
  
The tree edges are:  
  
(0,1)  
(3,5)  
(7,3)  
(6,7)  
(4,6)  
(2,4)  
(0,2)  
  
The back edges are:  
  
(4,0)  
(3,3)  
(5,4)  
(5,6)  
(5,7)  
  
The forward edges are:  
  
(2,3)  
(6,5)  
  
The cross edges are:  
  
(1,2)  
(1,3)  
  
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```

## 2. graphData2.txt with starting vertex as 0(default)

```
The tree for the depth first search from 0 is
( [0,0,15] ( [1,13,14] ) ( [2,1,12] ( [3,10,11] ) ( [4,2,9] ( [6,3,8] ( [7,4,7] ( [5,5,6] ) ) ) ) ) )

Paths from source vertex along DFS tree edges:
(0)
(0 1)
(0 2)
(0 2 3)
(0 2 4)
(0 2 4 6 7 5)
(0 2 4 6)
(0 2 4 6 7)
No path from source vertex to vertex 8.

The tree edges are:
(0,1)
(2,3)
(7,5)
(6,7)
(4,6)
(2,4)
(0,2)

The back edges are:
(3,3)
(4,0)
(5,4)
(5,6)
(5,7)

The forward edges are:
(6,5)

The cross edges are:
(1,2)
(1,3)
(3,5)

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```

### 3. graphData3.txt with starting vertex as 0(default)

```
The tree for the depth first search from 0 is
( [0,0,21] ( [1,13,20] ( [3,18,19] ) ( [4,14,17] ( [5,15,16] ) ) ) ( [2,1,12] ( [6,4,11] ( [8,9,10] ) ( [9,7,8] ) ( [10,5,6] ) ) ( [7,2,3] ) ) )

Paths from source vertex along DFS tree edges:

(0)
(0 1)
(0 2)
(0 1 3)
(0 1 4)
(0 1 4 5)
(0 2 6)
(0 2 7)
(0 2 6 8)
(0 2 6 9)
(0 2 6 10)

The tree edges are:

(1,3)
(4,5)
(1,4)
(0,1)
(6,8)
(6,9)
(6,10)
(2,6)
(2,7)
(0,2)

The back edges are:

(3,3)
(5,1)

The forward edges are:

None

The cross edges are:

(3,5)
(5,7)
(8,10)
(9,10)

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```

#### 4. graphData.txt with starting vertex as 8

```
The tree for the depth first search from 8 is
( [8,0,17] ( [5,1,16] ( [4,8,15] ( [0,9,14] ( [1,12,13] ) ) ) ( [2,10,11] ) ) ) ( [6,6,7] ) ( [7,2,5] ( [3,3,4] ) ) ) )

Paths from source vertex along DFS tree edges:
(8 5 4 0)
(8 5 4 0 1)
(8 5 4 0 2)
(8 5 7 3)
(8 5 4)
(8 5)
(8 5 6)
(8 5 7)
(8)

The tree edges are:
(0,1)
(0,2)
(4,0)
(5,4)
(5,6)
(7,3)
(5,7)
(8,5)

The back edges are:
(2,4)
(6,5)
(3,3)
(3,5)

The forward edges are:
None

The cross edges are:
(1,2)
(1,3)
(2,3)
(4,6)
(6,7)

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```