# **DFS-Activity**

**Start Time=11:00AM May 9th 2020 Finish Time: 11:59PM May 9th 2020**.

Run Depth First Search on the following Graph. Start with node **a.** Select node with least alphabet whenever you have choice. For example, if there are nodes **c, d, j, k** are children of a node then select the **c** first. Show the final tree(s) drawn clearly. Fill in the two tables given. Table-1 is describing the parent, discovery time and finish time for each node, while Table-2 will be describing the type of each edge. Turn in your scanned pages, or word file in the Assignment section of MS Teams under **DFS-Activity**.

**NOTE:** Please make sure your nodes are displayed clearly in your solution.

**Table-2**

|  |  |
| --- | --- |
| **Edge** | **Type** |
| A-B | Forward |
| B-E | Forward |
| C-B | Cross |
| C-D | Forward |
| C-F | Forward |
| D-E | Forward |
| E-F | Forward |
| E-C | Back-edge |
| G-E | Cross |
| H-G | Forward |
| H-I | Back-edge |
| I-B | Back-edge |
| I-J | Forward |
| I-K | Forward |
| J-K | Forward |
| K-H | Cross |

**Table- 1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Node** | **Parent** | **Discovery Time** | **Finish Time** |
| A | NO | 0 | 11 |
| B | A | 1 | 10 |
| C | E | 3 | 8 |
| D | C | 4 | 5 |
| E | B | 2 | 9 |
| F | E | 6 | 7 |
| G | H | 12 | 13 |
| H | K | 14 | 21 |
| I | NULL | 15 | 20 |
| J | I | 16 | 19 |
| K | J |  |  |