Task - 05

Here in task 2 BFS is we used while in task 3 DFS is used. The time complexity for BFS is $O(V+E)$ while using adjacency list where V refers to the vertices or nodes and E refers to the edges. Again, when using adjacency matrix for BFS, the time complexity is $O(V^2)$ where V refers to the vertices.

On the contrary, the time complexity for DFS is also $O(V+E)$ while using the adjacency list and $O(V^2)$ while using adjacency matrix which is exactly same as the time complexity of BFS.

So, the time complexity of DFS and BFS are equal, even though the time complexity for the task 2 and task 3 are equal, Orzay will get to victory road first.

The reason for this is the number of places visited before reaching victory road. Here, I had to visit 9 places to reach victory road according to task 2 and shown is output 2 which is "Places: 1 2 3 4 5 7 11 6 12". On the other hand, Cinray had to only visit 7 places to reach victory following DFS of task 3. and output 3 shows that "Places: 1 2 3 4 7 11 12".

Therefore, it can clearly be understood that Cinray will get to the victory road first.