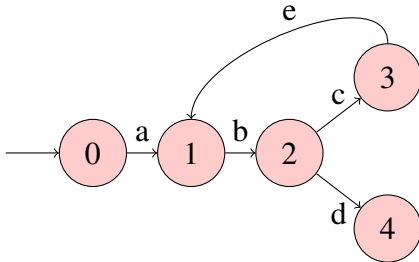


1. The set $succ(s)$ of successors of the state s is defined by

$$succ(s) = \{ t \in S \mid \exists a \in A : s \xrightarrow{a} t \}.$$

Consider the following model.



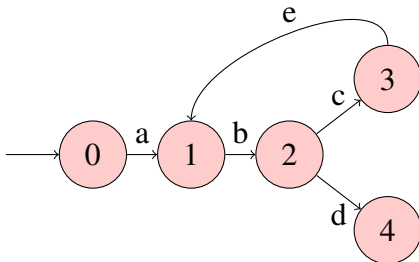
Complete the following table.

- $succ(0) =$
- $succ(1) =$
- $succ(2) =$
- $succ(3) =$
- $succ(4) =$

2. The set $pred(s)$ of predecessors of the state s is defined by

$$pred(s) = \{ t \in S \mid \exists a \in A : t \xrightarrow{a} s \}.$$

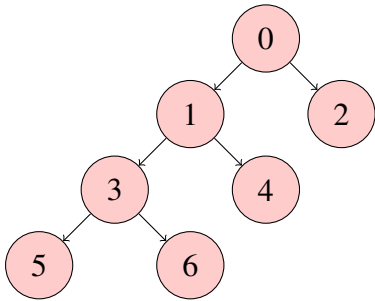
Consider the following model.



Complete the following table.

- $pred(0) =$
- $pred(1) =$
- $pred(2) =$
- $pred(3) =$
- $pred(4) =$

3. Develop a Java app that prints some output. When checking the Java app by JPF with depth-first search (DFS) the output should be different from the output for breadth-first search (BFS).



```
public class Search {  
    public static void main(String[] args) {
```

```
    }  
}
```