LAB # 9 Deadlock Detection

Task1:

Given the resource allocation graph below. Write the code to detect the Deadlock in the system using cyclic feature of the graph.

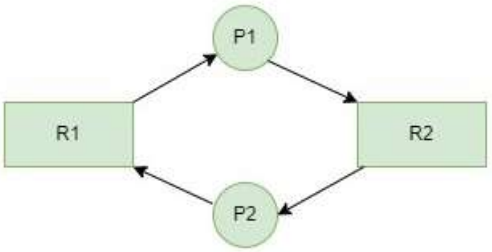
//Data structure for the problem below

//Request Matrix

Int request[2][2];

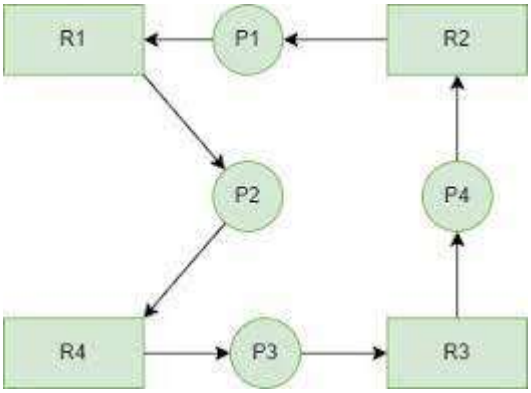
//Allocation Matrix

Int allocation[2][2];



Task2:

Given the resource allocation graph below. Write the code to detect the Deadlock in the system using cyclic feature of the graph.



//Data structure for the problem below

//Request Matrix

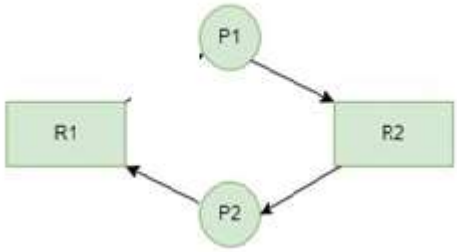
Int request[4][4];

//Allocation Matrix

Int allocation[4][4];

Task 3: (No Deadlock Scenario)

Given the resource allocation graph below. Write the program to detect the Deadlock in the system using cyclic feature of the graph.



Task 4:

Write the generic program to detect the deadlock in the system with the variable number of processes and resources.

Steps to create a Resource allocation graph.

1. Prompt the user for the number of processes.
2. Prompt the user for the number of resources (with a single instance)
3. Prompt for resource assignment to processes. (in case of no assignment assign zero to a resource)
4. Prompt for request to resource by processes. (in case of no request assign zero to process)
5. Convert the resource allocation to wait for graph and detect deadlock(cycle)
6. Print the number of cycles.
7. Print the processes and resources which are creating deadlock in each cycle.