Depth First Search

A----->B------>D------>E------->C----->G------>F

DFS

Node 0:
adj List: 1---->2

Node 1:
adj List: 0--->2

Node : 2
Adj List: 0--->1--->3

Node: 3
Adj List: --->2

Visited Array

boolean vs[]=new boolean[4];

0=====>1=====>2====>3

Stack

/*
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```java
 */
package D;


import java.io.*;
import java.util.*;

// This class represents a
// directed graph using adjacency
// list representation
class Graph {

    private int V;

    // Array of lists for
    // Adjacency List Representation
    private LinkedList<Integer> adj[];


    Graph(int v) {
        V = v;
        adj = new LinkedList[v];
        for (int i = 0; i < v; ++i) {
            adj[i] = new LinkedList();
        }
    }

    // Function to add an edge into the graph
    void addEdge(int v, int w) {
        // Add w to v's list.
        adj[v].add(w);
    }

    // A function used by DFS
    void DFSUtil(int v, boolean visited[]) {
        // Mark the current node as visited and print it
        visited[v] = true;
        System.out.print(v + " ");//0=====>

        // Recur for all the vertices adjacent to this
        // vertex
        Iterator<Integer> i = adj[v].listIterator();
        while (i.hasNext()) {
            int n = i.next();
            if (!visited[n]) {
                DFSUtil(n, visited);
            }
        }
    }

    // The function to do DFS traversal.
    // It uses recursive DFSUtil()
    void DFS(int v) {
        // Mark all the vertices as
        // not visited(set as
        // false by default in java)
        boolean visited[] = new boolean[V];
```

```java
        // Call the recursive helper
        // function to print DFS
        // traversal
        DFSUtil(v, visited);
    }

    // Driver Code
    public static void main(String args[]) {
        Graph g = new Graph(4);

        g.addEdge(0, 1);
        g.addEdge(0, 2);
        g.addEdge(1, 2);
        g.addEdge(2, 0);
        g.addEdge(2, 3);


        System.out.println(
            "Following is Depth First Traversal "
            + "(starting from vertex 0)");

        // Function call
        g.DFS(0);
    }
}
```
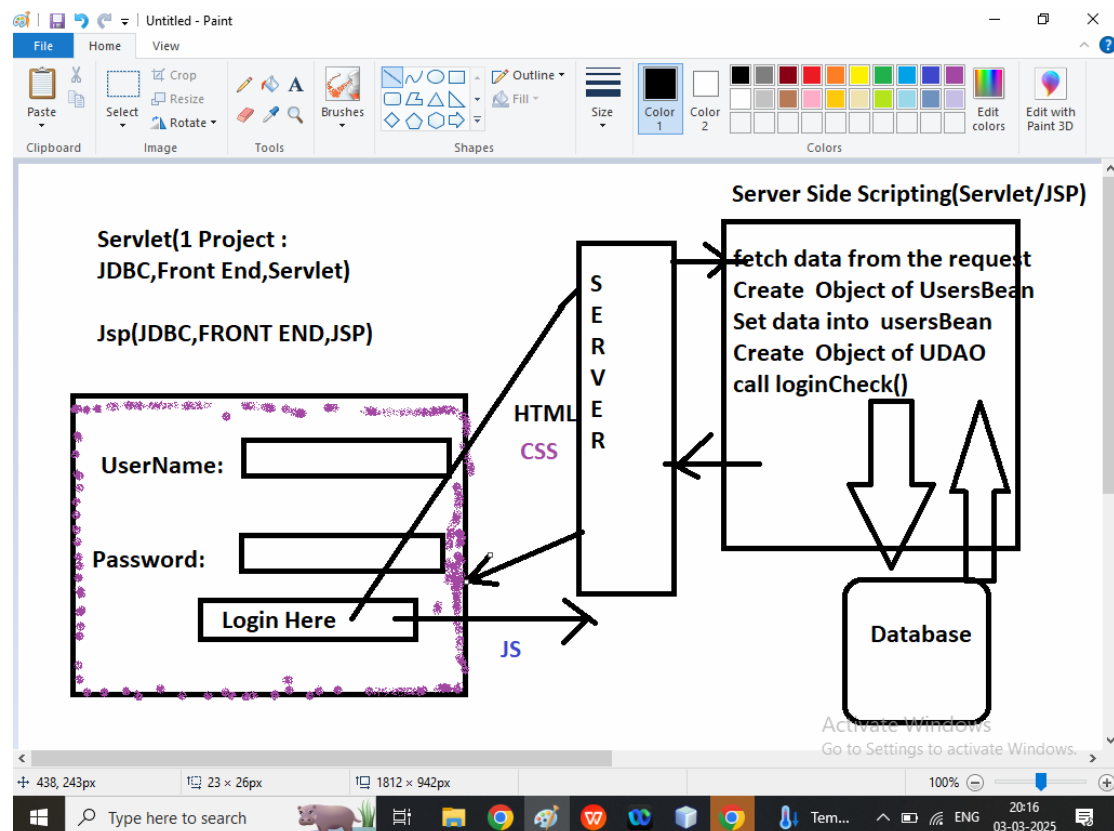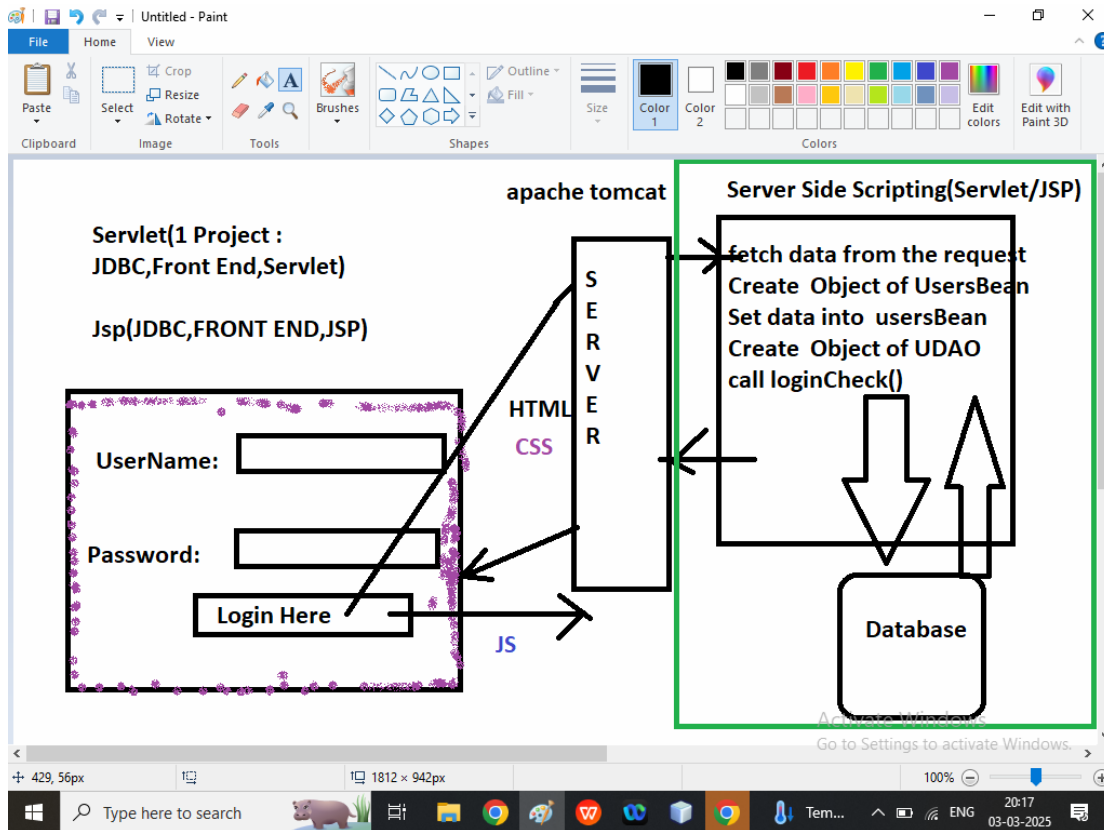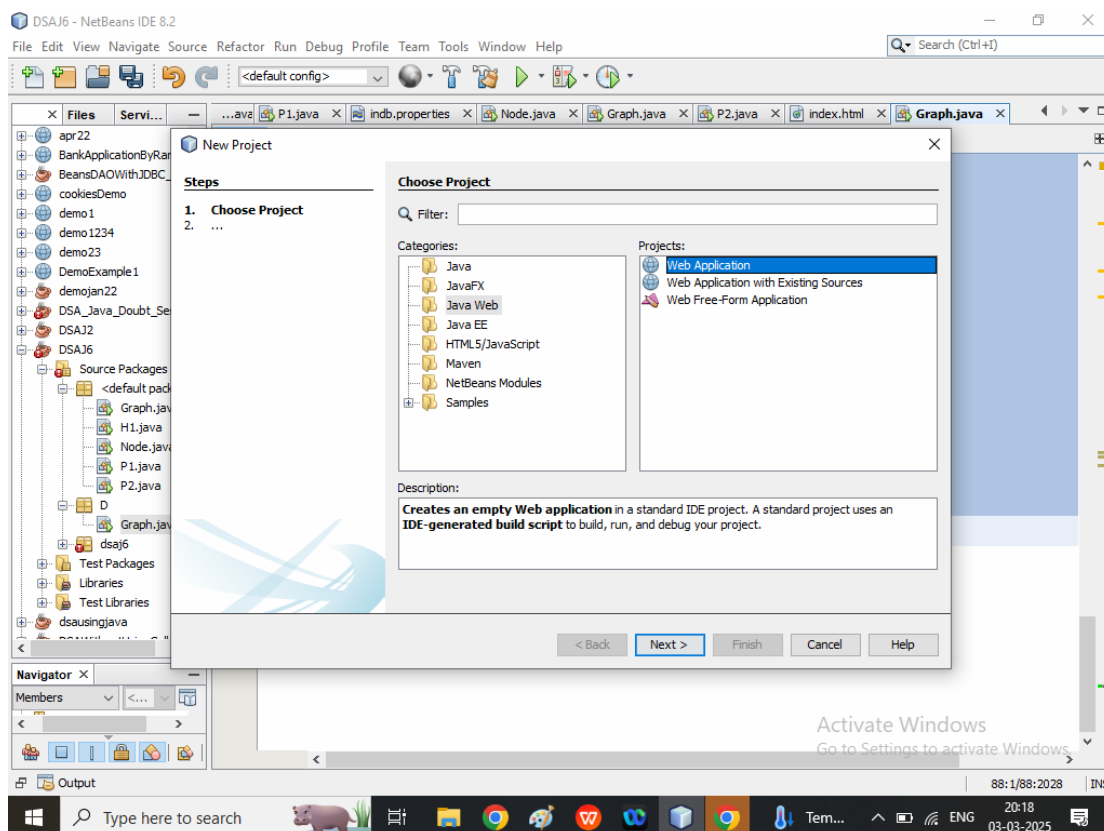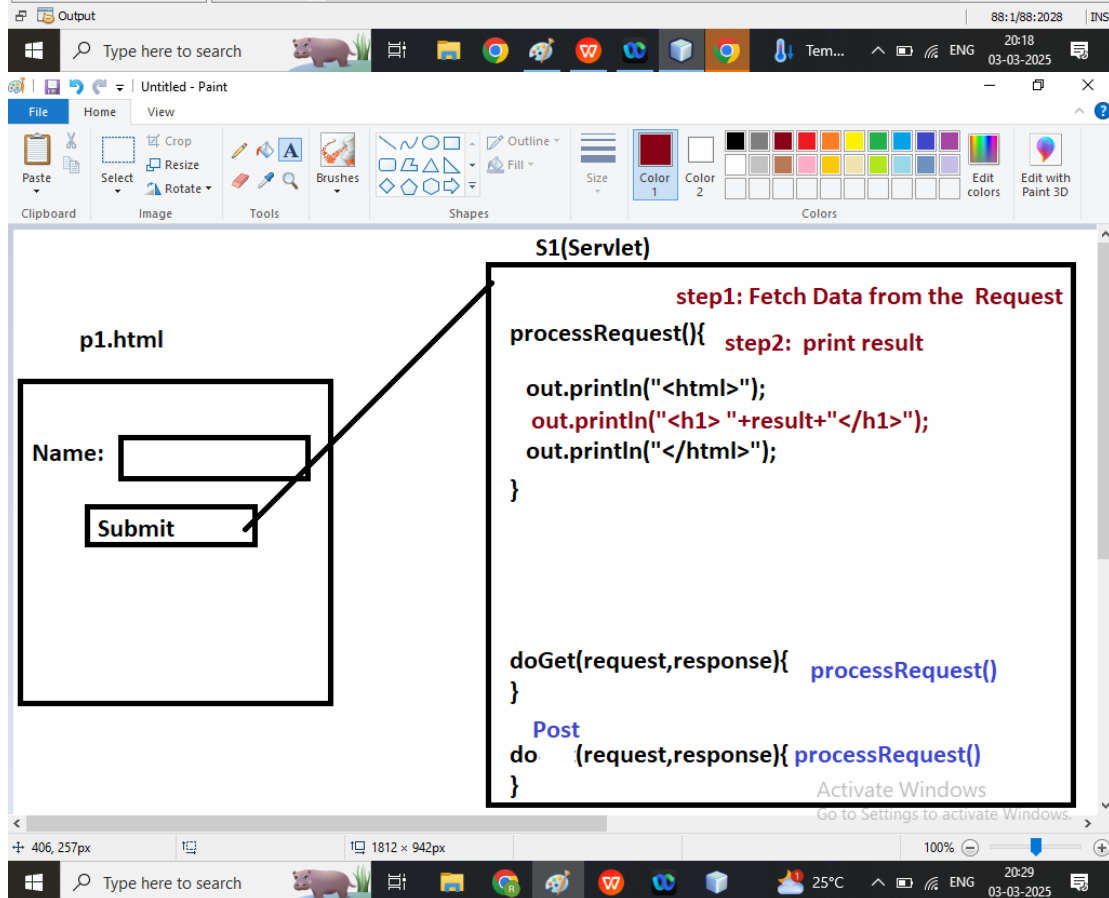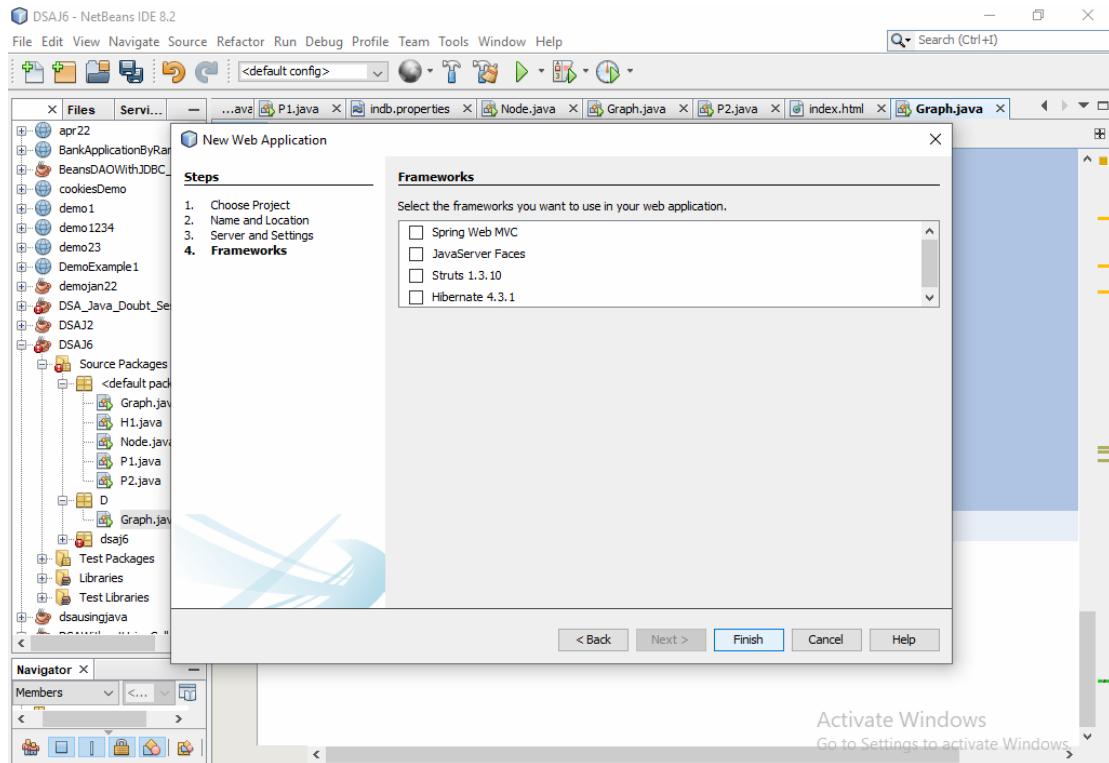
Q2. How to create web project in Netbeans IDE

Give name of the project and no need to select any framework

S1(Servlet)

step1: Fetch Data from the Request

processRequest(){   step2: print result

  out.println("<html>");
  out.println("<h1> "+result+"</h1>");
  out.println("</html>");

}

p1.html

Name:

Submit

doGet(request,response){   processRequest()
}

Post
do   (request,response){ processRequest()
}

P2.html

Name :

/*

```
 * To change this license header, choose License Headers in Project Properties.
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 * and open the template in the editor.
 */

import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

/**
 *
 * @author Admin
 */
public class S1 extends HttpServlet {

    /**
     * Processes requests for both HTTP <code>GET</code> and <code>POST</code>
     * methods.
     *
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
     */
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {
            /* TODO output your page here. You may use following sample code. */
            out.println("<!DOCTYPE html>");
            out.println("<html>");
            out.println("<head>");
            out.println("<title>Servlet S1</title>");
            out.println("</head>");
            out.println("<body>");
            //step1: Fetch Data from the Request
            String name=request.getParameter("name");
            //step2: Print The Result
            out.println("<h1>Weclome " +name + "</h1>");
            out.println("</body>");
            out.println("</html>");
        }
    }

    // <editor-fold defaultstate="collapsed" desc="HttpServlet methods. Click on the + sign on the left
to edit the code.">
    /**
     * Handles the HTTP <code>GET</code> method.
     *
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
     */
```

```java
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
      processRequest(request, response);
    }

    /**
     * Handles the HTTP <code>POST</code> method.
     *
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
     */
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
      processRequest(request, response);
    }

    /**
     * Returns a short description of the servlet.
     *
     * @return a String containing servlet description
     */
    @Override
    public String getServletInfo() {
      return "Short description";
    }// </editor-fold>

}
```