**United College of Engineering & Research, Prayagraj**

**Department of Computer Science and Engineering**

**Web Technology Lab Assignment (KCS-652)**

**B. Tech Computer Science and Engineering (VI-Semester)**

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| --- | --- |
| **No.** | **Program** |
| 1 | Write a program in java to take input from user by using all the following methods:   * Command Line Arguments * DataInputStream Class * BufferedReader Class * Scanner Class * Console Class   **Solution:**   * Command Line Arguments  1. **class** A 2. { 3. **public** **static** **void** main(String args[]){ 5. **for**(**int** i=0;i<args.length;i++) 6. System.out.println(args[i]); 8. } 9. }  * DataInputStream Class * Scanner Class  1. import java.util.Scanner; // Import the Scanner class 2. class Main { 3. public static void main(String[] args) { 4. Scanner myObj = new Scanner(System.in); // Create a Scanner object 5. System.out.println("Enter username"); 6. String userName = myObj.nextLine(); // Read user input 7. System.out.println("Username is: " + userName); // Output user input 8. } 9. }  * Console Class   import java.io.Console;  class ReadStringTest{  public static void main(String args[]){  Console c=System.console();  System.out.println("Enter your name: ");  String n=c.readLine();  System.out.println("Welcome "+n);  }  } |
| 2 | Write a program in java which creates the variable size array (Jagged Array) and print all the values using loop statement.  1  2  4  3  5  6  7  8  9  10  11  12  13  14  15  Solution:  class Main {  public static void main(String[] args)  {  int r = 5;    // Declaring 2-D array with 5 rows  int arr[][] = new int[r][];    // Creating a 2D array such that first row  // has 1 element, second row has two  // elements and so on.  for (int i = 0; i < arr.length; i++)  arr[i] = new int[i + 1];    // Initializing array  int count = 1;  for (int i = 0; i < arr.length; i++)  for (int j = 0; j < arr[i].length; j++)  arr[i][j] = count++;    // Displaying the values of 2D Jagged array  System.out.println("Contents of 2D Jagged Array");  for (int i = 0; i < arr.length; i++) {  for (int j = 0; j < arr[i].length; j++)  System.out.print(arr[i][j] + " ");  System.out.println();  }  }  } |
| 3 | Write a program in java to implement the following types of inheritance:   * Single Inheritance * Multilevel Inheritance * Hierarchical Inheritance * Hybrid Inheritance   Solution:  Single Inheritance   1. **class** Animal{ 2. **void** eat(){System.out.println("eating...");} 3. } 4. **class** Dog **extends** Animal{ 5. **void** bark(){System.out.println("barking...");} 6. } 7. **class** TestInheritance{ 8. **public** **static** **void** main(String args[]){ 9. Dog d=**new** Dog(); 10. d.bark(); 11. d.eat(); 12. }} 13. **class** Animal{ 14. **void** eat(){System.out.println("eating...");} 15. } 16. **class** Dog **extends** Animal{ 17. **void** bark(){System.out.println("barking...");} 18. } 19. **class** BabyDog **extends** Dog{ 20. **void** weep(){System.out.println("weeping...");} 21. } 22. **class** TestInheritance2{ 23. **public** **static** **void** main(String args[]){ 24. BabyDog d=**new** BabyDog(); 25. d.weep(); 26. d.bark(); 27. d.eat(); 28. }} 29. **class** Animal{ 30. **void** eat(){System.out.println("eating...");} 31. } 32. **class** Dog **extends** Animal{ 33. **void** bark(){System.out.println("barking...");} 34. } 35. **class** Cat **extends** Animal{ 36. **void** meow(){System.out.println("meowing...");} 37. } 38. **class** TestInheritance3{ 39. **public** **static** **void** main(String args[]){ 40. Cat c=**new** Cat(); 41. c.meow(); 42. c.eat(); 43. }} |
| 4 | Create a package named “*Mathematics*” and add a class “*Matrix”* with methods to add and subtract matrices (2x2). Write a Java program importing the Mathematics package and use the classes defined in it.  Solution: package Mathematics;  public class Matrix  {  public static void Add(int a[][],int b[][])  {  int c[][]=new int[a.length][a[0].length];  for(int i=0;i<a.length;i++)  {  for (int j=0;j<a.length;j++)  {  c[i][j]=a[i][j]+b[i][j];  System.out.print(c[i][j]);  }  System.out.println("");  }  }    public static void Sub(int a[][],int b[][])  {  int c[][]=new int[a.length][a[0].length];  for(int i=0;i<a.length;i++)  {  for (int j=0;j<a.length;j++)  {  c[i][j]=a[i][j]-b[i][j];  System.out.print(c[i][j]);  }  System.out.println("");  }  }  } |
| 5 | Write a program in java to implement constructor chaining and constructor overloading.  Solution:  // Java program to illustrate Constructor Chaining  // within same class Using this() keyword  // and changing order of constructors  class Temp  {  // default constructor 1  Temp()  {  System.out.println("default");  }  // parameterized constructor 2  Temp(int x)  {  // invokes default constructor  this();  System.out.println(x);  }  // parameterized constructor 3  Temp(int x, int y)  {  // invokes parameterized constructor 2  this(5);  System.out.println(x \* y);  }  public static void main(String args[])  {  // invokes parameterized constructor 3  new Temp(8, 10);  }  }   1. **public** **class** Student { 2. //instance variables of the class 3. **int** id; 4. String name; 6. Student(){ 7. System.out.println("this a default constructor"); 8. } 10. Student(**int** i, String n){ 11. id = i; 12. name = n; 13. } 15. **public** **static** **void** main(String[] args) { 16. //object creation 17. Student s = **new** Student(); 18. System.out.println("\nDefault Constructor values: \n"); 19. System.out.println("Student Id : "+s.id + "\nStudent Name : "+s.name); 21. System.out.println("\nParameterized Constructor values: \n"); 22. Student student = **new** Student(10, "David"); 23. System.out.println("Student Id : "+student.id + "\nStudent Name : "+student.name); 24. } 25. } |
| 6 | “Java does not support multiple inheritance but we can achieve it by interface”. Write a program to justify the above statement.  Solution:   1. **interface** Printable{ 2. **void** print(); 3. } 4. **interface** Showable{ 5. **void** show(); 6. } 7. **class** A7 **implements** Printable,Showable{ 8. **public** **void** print(){System.out.println("Hello");} 9. **public** **void** show(){System.out.println("Welcome");} 11. **public** **static** **void** main(String args[]){ 12. A7 obj = **new** A7(); 13. obj.print(); 14. obj.show(); 15. } 16. } |
| 7 | Write a program in java to demonstrate that finally block is always executed whether exception occurred or not.  Solution:   1. **class** TestFinallyBlock { 2. **public** **static** **void** main(String args[]){ 3. **try**{ 4. //below code do not throw any exception 5. **int** data=25/5; 6. System.out.println(data); 7. } 8. //catch won't be executed 9. **catch**(NullPointerException e){ 10. System.out.println(e); 11. } 12. //executed regardless of exception occurred or not 13. **finally** { 14. System.out.println("finally block is always executed"); 15. } 17. System.out.println("rest of phe code..."); 18. } 19. } |
| 8 | Write a program in java which creates two threads, “*Even*” thread and “*Odd*” thread and print the even no using Even Thread and odd no using Odd Thread.  Solution:  class Even extends Thread  {  public void run()  {  try  {  for(int i=0;i<100;i=i+2)  {  Thread.sleep(10000);  System.out.println(i);  }}  catch(InterruptedException e)  {  System.out.println(e.getMessage());  }}  }  class Odd extends Thread  {  public void run()  {  try  {  for(int i=1;i<100;i=i+2)  {  Thread.sleep(2000);  System.out.println(i);  }}  catch(InterruptedException e)  {  System.out.println(e.getMessage());  }}  }  class Mymain  {  public static void main(String args[])  {  Even e=new Even();  Odd o=new Odd();  e.start();  o.start();  }  } |
| 9 | Write a program in java which takes a name of a person as an input from the user implement the followings:   * Find the length of the string (excluding the whitespaces).   public class StringApp {  public static void main(String[] args)  {  String s="Arun Kumar Maurya";  int sp=0;  for(int i=0;i<s.length();i++)  {  if(s.charAt(i)==' ')  sp++;  }  System.out.println(s.length()-sp);      }    }   * Create the abbreviation of the name (For eg. “*Arun Kumar Maurya*” will be displayed as “*A.K.M.*”).   public class StringApp {  public static void main(String[] args)  {  String s="Arun Kumar Maurya";  System.out.print(s.charAt(0)+".");  for(int i=0;i<s.length();i++)  {  char c=s.charAt(i);  if(c==' ')  System.out.print(s.charAt(i+1)+".");    }    }   * Swap the case of all input characters (For eg. “*AruN KuMar MauRya*” will be displayed as “*aRUn kUmAR mAUrYA*”)   public class StringApp {  public static void main(String[] args)  {  String s="Arun Kumar Maurya 123";  for(int i=0;i<s.length();i++)  {  char c=s.charAt(i);  if(Character.isUpperCase(c))  System.out.print(Character.toLowerCase(c));  else if(Character.isLowerCase(c))  System.out.print(Character.toUpperCase(c));  else  System.out.print(c);      }        } |
| 10 | Write a HTML program to display your complete class time table.  Solution:  <html>  <head>  </head>  <body>  <table border="1px" width="100%" height="100px">  <tr><th width="10%">DAY/<br>TIME</th><th width="10%">2</th><th>2</th><th>2</th><th>2</th><th rowspan="7">R<br>E<br>C<br>E<br>S<br>S<br></th><th width="10%">1:10-1:55</th><th width="10%">1:55-2:40</th><th width="10%">2</th><th>2</th></tr>  <tr><td>Mon</td><td>1</td><td>2</td><td>3</td><td>4</td><td colspan="2" align="center">OS Lab </td><td>2</td><td>2</td></tr>  <tr><td>Tue</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr>  <tr><td>Wed</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr>  <tr><td>Thurs</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr>  <tr><td>Fri</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr>  <tr><td>Sat</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr>  </table>  </body>  </html> |
| 11 | Write a HTML program to display the given list.   * Fruit   + Bananas   + Apples     - Green     - Red   + Pears * Vegetables * Meat |
| 12 | Write a HTML program to divide your web page using frames   |  |  |  | | --- | --- | --- | | **Frame1**  Contents of Frame 1 | **Frame3**  Contents of Frame 3 | **Frame4**  Contents of Frame 4 | | **Frame2**  Contents of Frame 2 | |
| 13 | Write an HTML code to demonstrate the usage of inline CSS, internal CSS, external CSS and imported CSS.  Solution:  <!DOCTYPE html> <html> <head> <link rel="stylesheet" href="mystyle.css"> </head> <body>  <h1>This is a heading</h1> <p>This is a paragraph.</p>  </body> </html>  “mystyle.css"  body {   background-color: lightblue; }  h1 {   color: navy;   margin-left: 20px; }  <!DOCTYPE html> <html> <head> <style> body {   background-color: linen; }  h1 {   color: maroon;   margin-left: 40px; } </style> </head> <body>  <h1>This is a heading</h1> <p>This is a paragraph.</p>  </body> </html>  <!DOCTYPE html> <html> <body>  <h1 style="color:blue;text-align:center;">This is a heading</h1> <p style="color:red;">This is a paragraph.</p>  </body> </html> |
| 14 | Write programs using Java script for Web Page to display browsers information.  Solution: |
| 15 | Write a Java script to validate Name, Mobile Number, Email Id and Password.   * Name must contain alphabets and whitespace only * Mobile number must be 10 digits only. * Email Id must have one “*@*”, and domain name is “*united.ac.in*” (For eg. faculty@united.ac.in) * Password must have atleast one aplhabet, one digit and one special character (!@#$%&\*) |
| 16 | Writing program in XML for creation of DTD, which specifies set of rules. Create a style sheet in CSS/ XSL & display the document in internet explorer. |
| 17 | Write a program to implement Math server using TCP socket and also write a client program to send user input to Math server and display response as the square of the given number.  Solution:  import java.net.\*;  import java.io.\*;  class Client  {  public static void main(String []args)  {  Socket c;  BufferedReader brc,brs;  PrintWriter out;  String msg;  try  {  c=new Socket("127.0.0.1",2000);  System.out.println("Connection Established");  out=new PrintWriter(c.getOutputStream(),true);  brc=new BufferedReader(new InputStreamReader(c.getInputStream()));  brs=new BufferedReader(new InputStreamReader(System.in));  System.out.println("Connection Stream fetched");  System.out.print("Enter Any Number ");  msg=brs.readLine();  out.println(msg);  msg=brc.readLine();  System.out.println("Message Received :"+msg);  c.close();  }catch(Exception e){}  }  }  import java.net.\*;  import java.io.\*;  class Server  {  public static void main(String []args)  {  ServerSocket s;  PrintWriter out;  BufferedReader brc;  Socket c;  String msg;  int a,b;  try  {  s=new ServerSocket(2000);  c=s.accept();  System.out.println("Connection Received");  brc=new BufferedReader(new InputStreamReader(c.getInputStream()));  out=new PrintWriter(c.getOutputStream(),true);  System.out.println("Stream Fetched for R/W");  msg=brc.readLine();  System.out.println("Client Info Received");  a=Integer.parseInt(msg);  b=a\*a\*a;  msg=String.valueOf(b);  out.println(msg);  System.out.println("Cube of "+a +" has been sent to client");  s.close();  }catch(Exception e){}  }  } |
| 18 | Write a program to illustrate CURD operations using JDBC connectivity with MySQL database.  Solution:  package jdbcappitg1;  import java.util.Scanner;  import java.sql.\*;  public class JDBCappITG1  {  public static void main(String[] args)  {  String un,pd,mb;  PreparedStatement pst;  Scanner sc=new Scanner(System.in);  int x;  try  {  System.out.println("enter username,password & Mobile No.");  un=sc.next();  pd=sc.next();  mb=sc.next();  Class.forName("com.mysql.jdbc.Driver");  Connection con=DriverManager.getConnection(  "jdbc:mysql://localhost:3306/united","root","");  pst=con.prepareStatement("insert into emp(uname,pass,mob) values(?,?,?)");  pst.setString(1,un);  pst.setString(2,pd);  pst.setString(3,mb);  x=pst.executeUpdate();  if(x==1)  System.out.println("Record has been saved");  else  System.out.println("Record Not saved");      }  catch(Exception e)  {  System.out.println("please check the data "+e.getMessage());  }  }    }  package jdbcappitg1;  import java.util.Scanner;  import java.sql.\*;  public class JDBCappITG1  {  public static void main(String[] args)  {  String oun,pd,opd;  PreparedStatement pst;  Scanner sc=new Scanner(System.in);  int x;  try  {  System.out.println("enter New Password,username and old password");  pd=sc.next();  oun=sc.next();  opd=sc.next();  Class.forName("com.mysql.jdbc.Driver");  Connection con=DriverManager.getConnection(  "jdbc:mysql://localhost:3306/united","root","");  pst=con.prepareStatement("update emp set pass=? where uname=? and pass=?");  pst.setString(1,pd);  pst.setString(2,oun);  pst.setString(3,opd);    x=pst.executeUpdate();  if(x==1)  {  System.out.println("Record has been updated");  }    }  catch(Exception e)  {  System.out.println("please check the data "+e.getMessage());  }  }    }  package jdbcappitg1;  import java.util.Scanner;  import java.sql.\*;  public class JDBCappITG1 {  public static void main(String[] args)  {  try{  Class.forName("com.mysql.jdbc.Driver");    Connection con=DriverManager.getConnection(  "jdbc:mysql://localhost:3306/united","root","");    Statement stmt=con.createStatement();    ResultSet rs=stmt.executeQuery("select \* from emp");    while(rs.next())  System.out.println(rs.getString(1)+" "+rs.getString(2)+" "+rs.getString(3));    con.close();    }catch(Exception e){ System.out.println(e);}    }    }  package jdbcappitg1;  import java.util.Scanner;  import java.sql.\*;  public class JDBCappITG1  {  public static void main(String[] args)  {  String un,pd;  PreparedStatement pst;  Scanner sc=new Scanner(System.in);  int x;  try  {  System.out.println("enter username");  un=sc.next();    Class.forName("com.mysql.jdbc.Driver");  Connection con=DriverManager.getConnection(  "jdbc:mysql://localhost:3306/united","root","");  pst=con.prepareStatement("delete from emp where uname=?");  pst.setString(1,un);  x=pst.executeUpdate();      if(x==1)  {  System.out.println("Record has been updated");  }    }  catch(Exception e)  {  System.out.println("please check the data "+e.getMessage());  }  }    } |
| 19 | Write a SQL query to create and call the stored procedures with following specifications:   * Procedure without parameter and no return type * Procedure with parameter and no return type * Procedure with parameter and with return type   Solution:  CREATE PROCEDURE empdetails()  BEGIN  SELECT \* FROM emp;  END  //  --->change the delimeter to ; again  DELIMITER ;  --->call the procedure  CALL empdetails;  --->drop the procedure  DROP PROCEDURE empdetails;  mysql> use school;  Database changed  mysql> DELIMITER //  mysql>  mysql> CREATE PROCEDURE getempdetails()  -> BEGIN  -> SELECT \* FROM employee;  -> END //  Query OK, 0 rows affected (0.00 sec)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Changing Delimeter to ;  mysql> DELIMITER ;  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Calling Stored Procedure  mysql> call getempdetails;  +------+-----+--------+---------+  | name | id | salary | Dept\_id |  +------+-----+--------+---------+  | John | 110 | 25000 | 201 |  | John | 111 | 25000 | 201 |  +------+-----+--------+---------+  2 rows in set (0.00 sec)  Query OK, 0 rows affected (0.01 sec)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Removing Stored Procedure  mysql> drop procedure getempdetails;  mysql> drop procedure if exists getempdetails;  DELIMITER &&  CREATE PROCEDURE get\_tot\_salary ()  BEGIN  SELECT sum(salary) AS Total\_Salary FROM employee;  END &&  DELIMITER ;  call get\_tot\_salary;  DELIMITER &&  CREATE PROCEDURE get\_student (IN var1 INT)  BEGIN  SELECT \* FROM student\_info LIMIT var1;    END &&  DELIMITER ;  CALL get\_student(2);  +--------+------+----------+  | fname | id | address |  +--------+------+----------+  | fname2 | 2 | Lucknow |  | fname3 | 3 | Varanasi |  +--------+------+----------+  2 rows in set (0.00 sec) |
| 20 | Write a program to illustrate CURD operations using JSP connectivity with MySQL database on Apache Tomcat web server.  Solution:  <%@page import="java.sql.\*" errorPage="error.jsp"%>  <%  String un,pd,mb;  un=request.getParameter("t1");  pd=request.getParameter("t2");  mb=request.getParameter("t3");  try  {  PreparedStatement pst;  Class.forName("com.mysql.jdbc.Driver");    Connection con=DriverManager.getConnection(  "jdbc:mysql://localhost:3306/united","root","");  pst=con.prepareStatement("insert into emp(uname,pass,mob) values(?,?,?)");  pst.setString(1,un);  pst.setString(2,pd);  pst.setString(3,mb);  int x=pst.executeUpdate();  if(x==1)  out.println("Record has been saved");  else  out.println("Record Not saved");      }  catch(Exception e)  {  out.println("please check the data "+e.getMessage());  }    %> |