|  |  |  |  |
| --- | --- | --- | --- |
|  | | | |
| **North Campus** | | | |
| **Subject** | Object Oriented Programming (3+1) | **Program** | BS(CS) |
| **Dated:** |  | **Deadline:** |  |
| **Student Name:**  **Student ID:** | Usama Ali (15923) | **OBE:** CLO-1, PLO-1 and C1 | |
| **Assessment Activity** | Assignment -1 | **Max. Marks** | 5 |
| **Semester** | Spring 2023 (Semester- ) | **Section Code** |  |

**IMPORTANT INSTRUCTIONS:**

**Read the Instructions carefully.**

1. Write your answers in a Word file and upload the file before the due date on Blackboard.
2. Write your name and registration ID on the first page of your Word file.
3. **Answer scripts can be uploaded on BB any time before its deadline. Therefore, do not wait for the last hour to avoid any unforeseen problems.**
4. **Submission of answer copy (ies) will be considered acceptable through BB only. Therefore, do not submit your document through email or any other medium.**
5. Use 12 pt. font size and Times New Roman font style along with 1-inch page margins.
6. Follow the requirements of the word limit and the marking criteria while writing your answers.
7. Provide relevant, original and conceptual answers, as this exam aims to test your ability to examine, explain, modify or develop concepts discussed in class.
8. Do not copy answers from the internet or other sources. The plagiarism of your answers may be checked through Turnitin.
9. Recheck your answers before the submission on BB to correct any content or language related errors.
10. Double check your word file before uploading it on BB to ensure that you have uploaded the correct file with your answers.

**ASSIGNMENT TASKS:**

Use the **basic concepts** to:

1. Write a program in Java to check the leap year. [1]

***SOURCE CODE:***

**package** src;

**import** java.util.Scanner;

**public** **class** Leapyear {

**public** **static** **void** main(String[] args) {

**int** year;

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("\nEnter any year:");

year=sc.nextInt();

**if**(year%100==0 && year%400==0 || year%100!=0 && year%4==0 )

{

System.***out***.println("\t~~~~~~~~~~~~~~~~~~~~~~~");

System.***out***.println("\tThis is Leap Year");

System.***out***.println("\t------------------------");

}

**else**

{

System.***out***.println("\t~~~~~~~~~~~~~~~~~~~~~~~");

System.***out***.println("\tThis is Not Leap Year");

System.***out***.println("\t------------------------");

}

}

1. Write a program in Java to convert decimal to Hexadecimal. [1]

***SOURCE CODE:***

**package** src;

**import** java.util.Scanner;

**public** **class** DecToHexa {

**public** **static** **void** main(String[] args) {

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("\nEnter a number to convert decimal into HexaDecimal:");

**int** n=sc.nextInt();

**int** r;

String s=" ";

**char** dig[]={'0','1','2','3','4','5','6','7','8','9','A','B','C','D','E','F'};

**while**(n>0)

{

r=n%16;

s=dig[r]+s;

n=n/16;

}

System.***out***.println("`````````````````````````````````");

System.***out***.println("The HexaDecimal Number is "+s);

System.***out***.println("`````````````````````````````````");

}

}

1. Write a program in Java to perform various string operations. [1]

***SOURCE CODE:***

**package** src;

**public** **class** Stringoperations {

**public** **static** **void** main(String[] args) {

String a="iqra";

String b="Laiba";

System.***out***.println("\n\n\tPerform Various String Operations....");

System.***out***.println("---------------------------------------------");

System.***out***.println("\nFor Lower case:"+a.toLowerCase());

System.***out***.println("For Upper case:"+b.toUpperCase());

System.***out***.println("For Concatinatiuon:"+b.concat(a));

String c=" Aqsa ";

System.***out***.println("For Removing Space:"+c.trim());

String d="";

System.***out***.println("For Boolean Operation:"+d.isEmpty());

System.***out***.println("For Which index Char are:"+b.charAt(2));

System.***out***.println("For Which char index are:"+a.indexOf(2));

System.***out***.println("For Equal in Character:"+b.equals(a));

}

}

1. Write a Java program which accepts students name, id, and marks and display the lowest score.

[2]

***SOURCE CODE:***

**Import** java.util.Scanner;

**public** **class** StudentBio {

**public** **static** **void** main(String[] args) {

Scanner scanner = **new** Scanner(System.***in***);

**int** numOfStudents = 0;

System.***out***.print("Enter the number of students: ");

numOfStudents = scanner.nextInt();

String[] names = **new** String[numOfStudents];

**int**[] ids = **new** **int**[numOfStudents];

**double**[] marks = **new** **double**[numOfStudents];

**for** (**int** i = 0; i < numOfStudents; i++) {

System.***out***.print("Enter the name of student " + (i + 1) + ": ");

names[i] = scanner.next();

System.***out***.print("Enter the id of student " + (i + 1) + ": ");

ids[i] = scanner.nextInt();

System.***out***.print("Enter the marks of student " + (i + 1) + ": ");

marks[i] = scanner.nextDouble();

}

**double** lowestScore = 100;

String studentName = "";

**int** studentId = 0;

**for** (**int** i = 0; i < numOfStudents; i++) {

**if** (lowestScore>marks[i] ) {

lowestScore = marks[i];

studentName = names[i];

studentId = ids[i];

}

}

System.***out***.println("\n----------------------------------------");

System.***out***.println("The student with the LOwest score is:");

System.***out***.println("----------------------------------------");

System.***out***.println("Name: " + studentName);

System.***out***.println("ID: " + studentId);

System.***out***.println("Score: " +lowestScore);

}

}