Practical Assignments

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***Time: 60 Mins Marks: 40***

**Employee Info Table:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **EmpID** | **EmpFname** | **EmpLname** | **Department** | **Project** | **Address** | **DOB** | **Gender** |
| 1 | Bikash | Mehra | HR | HRMS | Bhubaneswar | 01/12/1998 | M |
| 2 | Mitali | Mishra | Admin | LMS | Delhi(DEL) | 02/05/1968 | F |
| 3 | Kishore | Rout | Account | HRMS | Mumbai(BOM) | 01/01/1980 | M |
| 4 | Rasmita | Sahoo | HR | LMS | Hyderabad(HYD) | 02/05/1992 | F |
| 5 | Pinaki | Mohanty | Admin | ORTPSA | BHUBANESWAR | 03/07/1974 | M |

**Employee Position Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **EmpID** | **EmpPosition** | **DateOfJoining** | **Salary** |
| 1 | Manager | 01/06/2021 | 100000 |
| 2 | Executive | 02/07/2022 | 50000 |
| 3 | Manager | 01/05/2022 | 90000 |
| 2 | Lead | 02/05/2022 | 85000 |
| 1 | Executive | 01/05/2021 | 300000 |

**Q1. Write a query to retrieve Emp Postion, Date of Join along with total salaries paid for the employee whose Date of join is 2021.**

**Ans:**

SELECT EP.EmpPosition, EP.DateOfJoining, SUM(EP.Salary) AS TotalSalary

FROM EmployeePosition EP JOIN EmployeeInfo EI ON EP.EmpID = EI.EmpID

WHERE YEAR(EP.DateOfJoining) = 2021

GROUP BY EP.EmpPosition, EP.DateOfJoining;

**Q2. Write a query to fetch first 3 records from the EmployeeInfo table.**

**Ans:**

SELECT \*FROM EmployeeInfo LIMIT 3;

### ****Q3. Write a query to find the lowest & Higest salary from the EmpPosition table.****

### ****Ans:****

SELECT MIN(Salary) AS LowestSalary, MAX(Salary) AS HighestSalaryFROM EmployeePosition;

### ****Q4. Write a query to retrieve duplicate records from a table.****

**Ans:**

SELECT EmpFname, EmpLname FROM EmployeeInfo GROUP BY EmpFname, EmpLname HAVING COUNT(\*) > 1;

### ****Q5.**** Write a query to fetch the department-wise count of employees sorted by department’s count in ascending order.

### ****Ans:****

### **SELECT Department, COUNT(\*) AS EmployeeCount FROM EmployeeInfo**

### **GROUP BY Department ORDER BY EmployeeCount ASC;**

### ****Q6. Write a query to fetch details of employees with the address as “DELHI(DEL)”.****

**Ans:**

SELECT \* FROM EmployeeInfo WHERE Address = 'Delhi(DEL)';

### ****Q7. Write a query to fetch details of employees whose EmpLname ends with an alphabet ‘P’ and contains five alphabets.****

SELECT \* FROM EmployeeInfo WHERE LENGTH(EmpLname) = 5 AND RIGHT(EmpLname, 1) = 'P';

### ****Q8. Write a query find number of employees whose DOB is between 02/05/1970 to 31/12/1975 and are grouped according to gender****

**Ans:**

SELECT Gender, COUNT(\*) AS EmployeeCount FROM EmployeeInfo

WHERE DOB BETWEEN '02/05/1970' AND '31/12/1975' GROUP BY Gender;

### ****Q9. Write q query to find all the employees whose salary is between 50000 to 100000.****

**Ans:**

SELECT \* FROM EmployeeInfo WHERE EmpID IN (SELECT EmpID FROM EmployeePosition WHERE Salary BETWEEN 50000 AND 100000);

### ****Q10. Write a query to create a new table which consists of data and structure copied from the other table.****

### ****Ans:****

### ****CREATE TABLE NewEmployeeInfo AS SELECT \* FROM EmployeeInfo;****

### ****-----------------------------------------------------------------------------------------------------------****

**Java Questions**

1. **Write a Java Program to find the duplicate characters in a string.**

**Ans:**

public class FindDuplicateChar{

public static void main(String arg[]) {

String str = "National Institute";

char[] carr = str.toCharArray();

System.out.println("The string is:" + str);

System.out.print("Duplicate Characters in above string are: ");

for (int i = 0; i < str.length(); i++) {

for (int j = i + 1; j < str.length(); j++) {

if (carr[i] == carr[j]) {

System.out.print(carr[j] + " ");

break;

}

}

}

}

**}**

1. **Write a function that will find out the second highest element in an array.**

**-----------------------------------------------------------------------------------------------------------**

**ANS:**

**.…….**

Public static int getSecondLargest(int[] no, int total){

Int temp;

For( int j = I+1; j<total; j++)

{

If(no[I] > no[j])

{

temp = no[i];

no[i] = no[j];

No[j] = temp;

}

} return no[total-2];

}

Public static void main(String[] args) {

Int no[] = {56, 89,23,5,34,,23};

System.out.println(“Second Largest no::”+getSecondLargest(no,total);

}

1. **Write a function that will merge two lists.**

*For ex. Input:*

*First List: [2, 3, 5]*

*Second List: [4, 6]*

*Output:*

*Merged List: [2, 3, 5, 4, 6]*

*--------------------------------------------------------------------------------------------------*

***ANS:***

public static List<Integer> mergeLists(List<Integer> firstList, List<Integer> secondList) {

List<Integer> mergedList = new ArrayList<>(firstList);

mergedList.addAll(secondList);

return mergedList;

}

List<Integer> firstList = new ArrayList<>(Arrays.asList(2, 3, 5));

List<Integer> secondList = new ArrayList<>(Arrays.asList(4, 6));

List<Integer> mergedList = mergeLists(firstList, secondList);

System.out.println("Merged List: " + mergedList);

1. **Write a function that will create a file with the filename given and write the content given in the function.**

*For ex. Input: input.txt, “This is a test content that I am writing”*

*Output: File will be created with the name input.txt and having the content “This is a test content that I am writing”*

*--------------------------------------------------------------------------------------------------*

***Ans:***

public static void createAndWriteFile(String fileName, String content) {

try {

FileWriter fileWriter = new FileWriter(fileName);

fileWriter.write(content);

fileWriter.close();

System.out.println(“File “ + fileName + “created and content written successfully.");

} catch (IOException e) {

e.printStackTrace();

}

}

# Write a Java program to Illustrate Working of an ArrayList & LinkedList in Java

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**Ans:**

import java.util.ArrayList;

import java.util.LinkedList;

import java.util.List;

public class Examples {

   public static void main(String args[]) {

      List<String> list = new ArrayList<>();

      list.add("A");

      list.add("B");

      list.add("C");

      list.add("D");

      List<String> list1 = new LinkedList<>();

      list1.add("A");

      list1.add("B");

      list1.add("C");

      list1.add("D");

      System.out.println(list);

      System.out.println(list1);

   }}