STUDENT ACTIVITY REPORT

(학생 활동 보고서)

Document Type (문서 유형)				
Category		Practice Document	x	Mission Document
		Final Document		Revision Document

Course Description (프로젝트 마일스톤)				
Course Name		Fundamental Oracle		Database SQL Server
	x	Java Programming		C# Programming

Student Mission (학생 임무)					

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Code	Link Video : *https://youtu.be/FfANPvGKpLq*

Struktur penyusunan program

Java_Mission_1_NIM/
├── src/
│   └── com/
│   └── lgcns/
│   └── mission/
│   ├── student/
│   │   ├── Student.java
│   │   └── ScoreTest.java
│   └── util/
│   └── MissionUtil.java

Student.java

```
package com.lgcns.mission.student;

public class Student {
    private String id;
    private int java;
    private int sql;
    private int math;
    private int chinese;
    private int rank;

    public Student(String id) {
        this.id = id;
    }

    public void setScores(int java, int sql, int math, int chinese) {
        this.java = java;
        this.sql = sql;
        this.math = math;
        this.chinese = chinese;
    }

    public double calculateAverage() {
        return (java + sql + math + chinese) / 4.0;
    }

    public void printScoreInfo() {
        System.out.println("ID Siswa: " + id);
        System.out.println("Nilai Java: " + java);
```

```java
      System.out.println("Nilai SQL: " + sql);
      System.out.println("Nilai Matematika: " + math);
      System.out.println("Nilai Bahasa Mandarin: " + chinese);
      System.out.println("Nilai rata-rata: " + String.format("%.2f", calculateAverage()));
   }

   public String getId() {
      return id;
   }

   public void setId(String id) {
      this.id = id;
   }

   public int getRank() {
      return rank;
   }

   public void setRank(int rank) {
      this.rank = rank;
   }

   // Getter methods for individual scores
   public int getJava() {
      return java;
   }

   public int getSQL() {
      return sql;
   }

   public int getMath() {
      return math;
   }

   public int getChinese() {
      return chinese;
   }
}

============================================================================
ScoreTest.java

package com.lgcns.mission.student;

import com.lgcns.mission.util.MissionUtil;
import java.util.Arrays;
import java.util.Comparator;

public class ScoreTest {
   public static void main(String[] args) {
      System.out.println("Masukkan jumlah siswa di kelas: ");
```

```java
    int numberOfStudents = MissionUtil.getUserIntegerInput();
    Student[] students = new Student[numberOfStudents];

    for (int i = 0; i < numberOfStudents; i++) {
        String studentId = String.format("STD%02d", i + 1);
        students[i] = new Student(studentId);

        System.out.println("Masukkan nilai Java untuk " + studentId + ": ");
        int javaScore = MissionUtil.getUserIntegerInput();
        System.out.println("Masukkan nilai SQL untuk " + studentId + ": ");
        int sqlScore = MissionUtil.getUserIntegerInput();
        System.out.println("Masukkan nilai Matematika untuk " + studentId + ": ");
        int mathScore = MissionUtil.getUserIntegerInput();
        System.out.println("Masukkan nilai Bahasa Mandarin untuk " + studentId + ": ");
        int chineseScore = MissionUtil.getUserIntegerInput();

        students[i].setScores(javaScore, sqlScore, mathScore, chineseScore);
    }

    Arrays.sort(students,
Comparator.comparingDouble(Student::calculateAverage).reversed());

    for (int i = 0; i < students.length; i++) {
        students[i].setRank(i + 1);
        students[i].printScoreInfo();
        System.out.println("Peringkat: " + students[i].getRank());
    }

    System.out.println("===========================================");
    printClassAverages(students);
}

private static void printClassAverages(Student[] students) {
    double totalJava = 0, totalSQL = 0, totalMath = 0, totalChinese = 0;

    for (Student student : students) {
        totalJava += student.getJava();
        totalSQL += student.getSQL();
        totalMath += student.getMath();
        totalChinese += student.getChinese();
    }

    int studentCount = students.length;

    System.out.println("Nilai rata – rata kelas Java: " + String.format("%.2f", totalJava /
studentCount));
    System.out.println("Nilai rata – rata kelas SQL: " + String.format("%.2f", totalSQL /
studentCount));
    System.out.println("Nilai rata – rata kelas Matematika: " + String.format("%.2f",
totalMath / studentCount));
    System.out.println("Nilai rata – rata kelas Bahasa Mandarin: " + String.format("%.2f",
totalChinese / studentCount));
```

| | ```java
    System.out.println("===========================================");
  }
}


==============================================================================
MissionUtil.java

package com.lgcns.mission.util;

import java.util.Scanner;

public class MissionUtil {
  private static Scanner scanner = new Scanner(System.in);

  public static int getUserIntegerInput() {
    return scanner.nextInt();
  }

  public static double getUserDoubleInput() {
    return scanner.nextDouble();
  }

  public static String getCodeInput() {
    return scanner.next();
  }
}
``` |
| **Screenshot** | *Capture several screenshots of the program execution results in this section, and add explanations if necessary.* |
| | ***Hasil sample run 1*** |

```
ID Siswa: STD01
Nilai Java: 94
Nilai SQL: 91
Nilai Matematika: 86
Nilai Bahasa Mandarin: 79
Nilai rata-rata: 87,50
Peringkat: 1
ID Siswa: STD04
Nilai Java: 90
Nilai SQL: 93
Nilai Matematika: 75
Nilai Bahasa Mandarin: 89
Nilai rata-rata: 86,75
Peringkat: 2
ID Siswa: STD03
Nilai Java: 87
Nilai SQL: 79
Nilai Matematika: 85
Nilai Bahasa Mandarin: 88
Nilai rata-rata: 84,75
Peringkat: 3
ID Siswa: STD02
Nilai Java: 67
Nilai SQL: 81
Nilai Matematika: 79
Nilai Bahasa Mandarin: 59
Nilai rata-rata: 71,50
Peringkat: 4
=========================================
Nilai rata - rata kelas Java: 84,50
Nilai rata - rata kelas SQL: 86,00
Nilai rata - rata kelas Matematika: 81,25
Nilai rata - rata kelas Bahasa Mandarin: 78,75
=========================================
```

Notes	
	Project ini memungkinkan sebuah user untuk menginput data nilai siswa, menghitung nilai rata-rata, mengurutkan siswa berdasarkan rata-rata tersebut (berdasarkan rank) dan mencetak informasi nilai rata-rata kelas untuk masing-masing mata pelajaran.