import java.util.Scanner;

public class ExamKTCalculator {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

int[] maxTheoryMarks = {80, 60, 60, 60, 40};

int[] maxIATMarks = {20, 15, 15, 15, 15};

int[] maxTermWorkMarks = {25, 20, 20, 25, 25};

int[] maxPracticalMarks = {0, 0, 0, 50, 0};

int[] theoryMarks = new int[5];

int[] IATMarks = new int[5];

int[] termWorkMarks = new int[5];

int[] practicalMarks = new int[5];

String[] subjectNames = {"AM-II", "AP-II", "AC-II", "EG", "PCE"};

int internalKTs = 0, externalKTs = 0;

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

System.out.println("\nEnter marks for " + subjectNames[i] + ":");

theoryMarks[i] = getValidInput("Theory Marks (out of " +

maxTheoryMarks[i] + "): ", maxTheoryMarks[i]);

IATMarks[i] = getValidInput("IAT-I & IAT-II Marks (out of " +

maxIATMarks[i] + "): ", maxIATMarks[i]);

termWorkMarks[i] = getValidInput("Term Work Marks (out of " +

maxTermWorkMarks[i] + "): ", maxTermWorkMarks[i]);

if (maxPracticalMarks[i] > 0) {

practicalMarks[i] = getValidInput("Practical Marks (out of " +

maxPracticalMarks[i] + "): ", maxPracticalMarks[i]);

}

if (theoryMarks[i] < (maxTheoryMarks[i] \* 0.4)) {

externalKTs++;

}

if (IATMarks[i] < (maxIATMarks[i] \* 0.4) || termWorkMarks[i] <

(maxTermWorkMarks[i] \* 0.4)) {

internalKTs++;

}

if (maxPracticalMarks[i] > 0 && practicalMarks[i] <

(maxPracticalMarks[i] \* 0.4)) {

externalKTs++;

}

}

System.out.println("\nResults Summary:");

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

System.out.println(subjectNames[i] + " - Theory: " + theoryMarks[i] +

", IAT: " + IATMarks[i] +

", Term Work: " + termWorkMarks[i] +

(maxPracticalMarks[i] > 0 ? ", Practical: " + practicalMarks[i] :

""));

}

System.out.println("\nTotal Internal KTs: " + internalKTs);

System.out.println("Total External KTs: " + externalKTs);

if (externalKTs > 5 || internalKTs > 4) {

System.out.println("Result: Failed (Year Drop)");

} else {

System.out.println("Result: Passed");

}

scanner.close();

}

private static int getValidInput(String prompt, int maxMarks) {

Scanner scanner = new Scanner(System.in);

int marks;

while (true) {

System.out.print(prompt);

marks = scanner.nextInt();

if (marks >= 0 && marks <= maxMarks) {

break;

} else {

System.out.println("Invalid input. Please enter a value between 0 and " +

maxMarks + ".");

}

}

scanner.close();

return marks;

}

}

**OUTPUT:**

**Enter marks for AM-II:**

**Theory Marks (out of 80): 60**

**IAT-I & IAT-II Marks (out of 20): 15**

**Term Work Marks (out of 25): 20**

**Enter marks for AP-II:**

**Theory Marks (out of 60): 50**

**IAT-I & IAT-II Marks (out of 15): 15**

**Term Work Marks (out of 20): 19**

**Enter marks for AC-II:**

**Theory Marks (out of 60): 49**

**IAT-I & IAT-II Marks (out of 15): 15**

**Term Work Marks (out of 20): 19**

**Enter marks for EG:**

**Theory Marks (out of 60): 45**

**IAT-I & IAT-II Marks (out of 15): 12**

**Term Work Marks (out of 25): 23**

**Practical Marks (out of 50): 49**

**Enter marks for PCE:**

**Theory Marks (out of 40): 35**

**IAT-I & IAT-II Marks (out of 15): 15**

**Term Work Marks (out of 25): 20**

**Results Summary:**

**AM-II - Theory: 60, IAT: 15, Term Work: 20**

**AP-II - Theory: 50, IAT: 15, Term Work: 19**

**AC-II - Theory: 49, IAT: 15, Term Work: 19**

**EG - Theory: 45, IAT: 12, Term Work: 23, Practical: 49**

**PCE - Theory: 35, IAT: 15, Term Work: 20**

**Total Internal KTs: 0**

**Total External KTs: 0**

**Result: Passed**

**Enter marks for AM-II:**

**Theory Marks (out of 80): 23**

**IAT-I & IAT-II Marks (out of 20): 5**

**Term Work Marks (out of 25): 10**

**Enter marks for AP-II:**

**Theory Marks (out of 60): 10**

**IAT-I & IAT-II Marks (out of 15): 10**

**Term Work Marks (out of 20): 5**

**Enter marks for AC-II:**

**Theory Marks (out of 60): 15**

**IAT-I & IAT-II Marks (out of 15): 5**

**Term Work Marks (out of 20): 10**

**Enter marks for EG:**

**Theory Marks (out of 60): 20**

**IAT-I & IAT-II Marks (out of 15): 9**

**Term Work Marks (out of 25): 5**

**Practical Marks (out of 50): 0**

**Enter marks for PCE:**

**Theory Marks (out of 40): 35**

**IAT-I & IAT-II Marks (out of 15): 8**

**Term Work Marks (out of 25): 10**

**Results Summary:**

**AM-II - Theory: 23, IAT: 5, Term Work: 10**

**AP-II - Theory: 10, IAT: 10, Term Work: 5**

**AC-II - Theory: 15, IAT: 5, Term Work: 10**

**EG - Theory: 20, IAT: 9, Term Work: 5, Practical: 0**

**PCE - Theory: 35, IAT: 8, Term Work: 10**

**Total Internal KTs: 4**

**Total External KTs: 5**

**Result: Passed**

**Enter marks for AM-II:**

**Theory Marks (out of 80): 10**

**IAT-I & IAT-II Marks (out of 20): 0**

**Term Work Marks (out of 25): 0**

**Enter marks for AP-II:**

**Theory Marks (out of 60): 15**

**IAT-I & IAT-II Marks (out of 15): 0**

**Term Work Marks (out of 20): 0**

**Enter marks for AC-II:**

**Theory Marks (out of 60): 12**

**IAT-I & IAT-II Marks (out of 15): 0**

**Term Work Marks (out of 20): 0**

**Enter marks for EG:**

**Theory Marks (out of 60): 35**

**IAT-I & IAT-II Marks (out of 15): 10**

**Term Work Marks (out of 25): 0**

**Practical Marks (out of 50): 0**

**Enter marks for PCE:**

**Theory Marks (out of 40): 15**

**IAT-I & IAT-II Marks (out of 15): 0**

**Term Work Marks (out of 25): 0**

**Results Summary:**

**AM-II - Theory: 10, IAT: 0, Term Work: 0**

**AP-II - Theory: 15, IAT: 0, Term Work: 0**

**AC-II - Theory: 12, IAT: 0, Term Work: 0**

**EG - Theory: 35, IAT: 10, Term Work: 0, Practical: 0**

**PCE - Theory: 15, IAT: 0, Term Work: 0**

**Total Internal KTs: 5**

**Total External KTs: 5**

**Result: Failed (Year Drop)**

**Enter marks for AM-II:**

**Theory Marks (out of 80): 90**

**Invalid input. Please enter a value between 0 and 80.**

**Theory Marks (out of 80): -15**

**Invalid input. Please enter a value between 0 and 80.**