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import 'dart:io';

void main() {
  List<Map<String, dynamic>> students = [];

  while (true) {
    print("\nDo you want to add a new student? (yes/no): ");
    String? choice = stdin.readLineSync();
    if (choice == null || choice.toLowerCase() != 'yes') {
      break;
    }

    //input student name
    print("Enter Student name: ");
    String? name = stdin.readLineSync();

    //input student ID
    String id;
    while (true) {
      print("Enter student Id: ");
      id = stdin.readLineSync() ?? '';
      bool exists = students.any((student) => student['id'] == id);
      if (exists) {
        print("This id already exist,please enter another ID");
      } else {
        break;
      }
    }

    // Input student score
    int score;
    while (true) {
      print("Please enter student score (0-100): ");
      String? scoreInput = stdin.readLineSync();
      if (scoreInput != null && int.tryParse(scoreInput) != null) {
        score = int.parse(scoreInput);
        if (score >= 0 && score <= 100) break;
      }
      print("Please enter correct score");
    }

    // Latter grade identify
    String grade = getGrade(score);

    // Record save
    students.add({'name': name, 'id': id, 'score': score, 'grade': grade});
  }

  if (students.isEmpty) {
    print("There are no students!");
    return;
  }

  // Sorted by score (high to low)
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students.sort((a, b) => b['score'].compareTo(a['score']));

// output
print("\n====List of students by score====");
for (var student in students) {
    print(
        "Name: ${student['name']}, ID: ${student['id']}, Score: ${student['score']}, Grade: ${student['grade']} ");
}

// Total students
print("\nTotal Students: ${students.length}");

// Highest and lowest scores
int maxScore = students.first['score'];
int minScore = students.last['score'];
print("Highest Score: $maxScore");
print("Lower Score: $minScore");
}

// Grade function
String getGrade(int score) {
    if (score >= 90) return 'A+';
    if (score >= 80) return 'A';
    if (score >= 70) return 'B';
    if (score >= 60) return 'C';
    if (score >= 50) return 'D';
    return 'F';
}
```