Experiment 5.1.2

Aim:- Write a program to calculate the total marks, aggregate percentage, and grade of a student based on marks in four subjects.

Algorithm:-

Step 1: Start

Step 2: Read marks of four subjects
   m1, m2, m3, m4

Step 3: Calculate total marks
   total = m1 + m2 + m3 + m4

Step 4: Calculate aggregate percentage
   aggregate = (total / 400) × 100

Step 5: Determine the grade

- If aggregate ≥ 75
   Grade = **Distinction**

- Else if aggregate ≥ 60 and < 75
   Grade = **First Division**

- Else if aggregate ≥ 50 and < 60
   Grade = **Second Division**

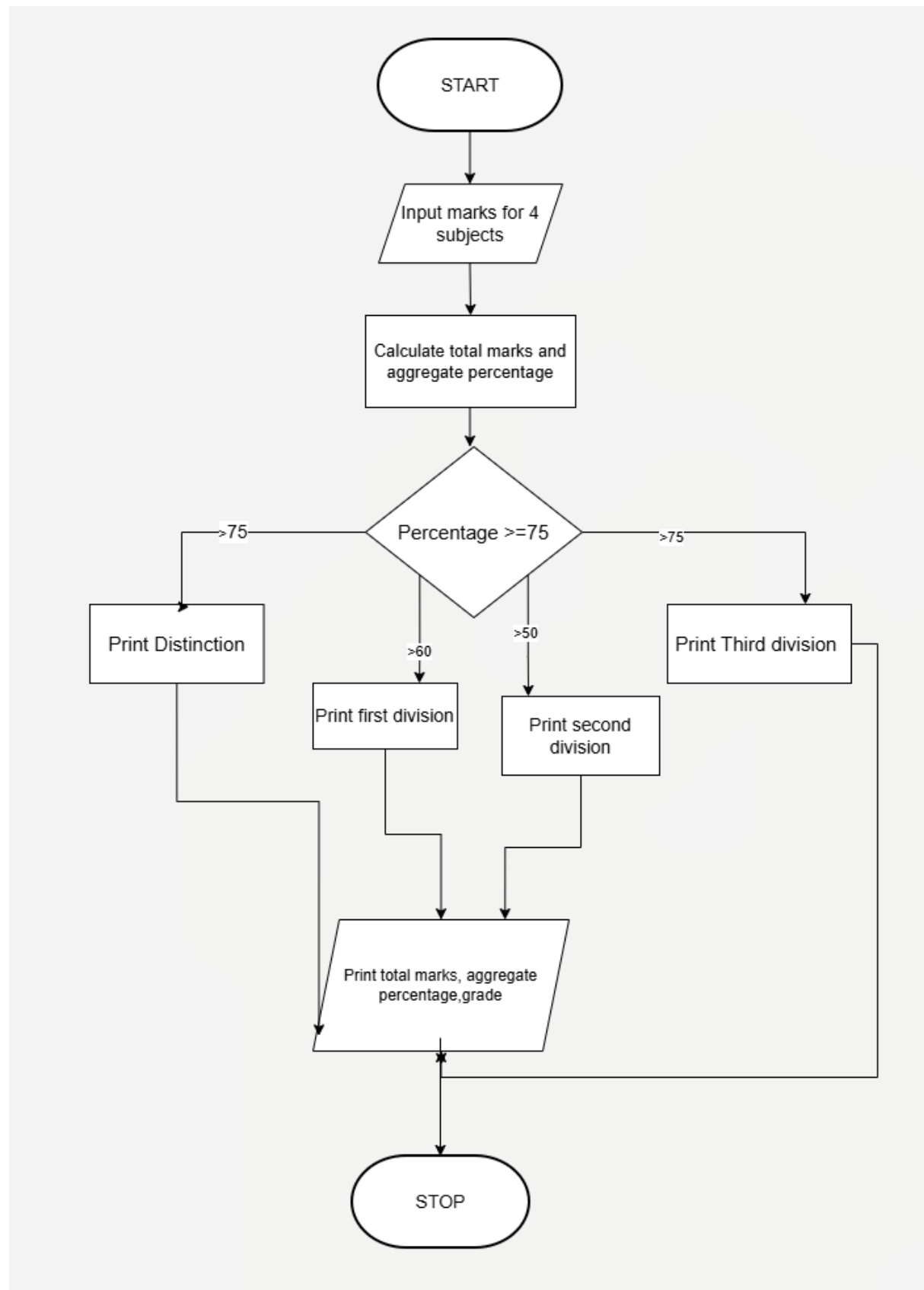- Else if aggregate ≥ 40 and < 50

  Grade = **Third Division**

- Else

  Grade = **Fail**

Step 6: Display total marks, aggregate percentage, and grade

Step 7: Stop

Flowchart:-

```
                    ┌───────────┐
                    │   START   │
                    └─────┬─────┘
                          │
                          ▼
                   ╱───────────────╲
                  ╱ Input marks for 4╲
                  ╲    subjects     ╱
                   ╲───────────────╱
                          │
                          ▼
              ┌───────────────────────┐
              │ Calculate total marks │
              │ and aggregate         │
              │ percentage            │
              └───────────┬───────────┘
                          │
                          ▼
                    ◇───────────◇
         >75 ───────◇ Percentage ◇─────── >75
          │         ◇   >=75     ◇         │
          │          ◇─────┬────◇          │
          │                │                │
          ▼              >60│  >50           ▼
  ┌──────────────┐          │    │   ┌──────────────────┐
  │Print         │          ▼    ▼   │Print Third       │
  │Distinction   │   ┌────────┐ ┌────────┐ division    │
  └──────┬───────┘   │Print   │ │Print   │              │
         │           │first   │ │second  │              │
         │           │division│ │division│              │
         │           └───┬────┘ └───┬────┘              │
         │               │          │                   │
         │               ▼          ▼                   │
         │      ╱──────────────────────╲                │
         └─────▶│ Print total marks,    │◀──────────────┘
                │ aggregate             │
                │ percentage,grade      │
                ╲──────────────────────╱
                          │
                          ▼
                    ┌───────────┐
                    │   STOP    │
                    └───────────┘
```

Code:-

5.1.2. Student Grade Based on Aggregate

Write a program to calculate the total marks, aggregate percentage, and grade of a student based on marks in four subjects. The grade is determined as follows:
- Aggregate > 75%: Distinction
- Aggregate >= 60% and < 75%: First Division
- Aggregate >= 50% and < 60%: Second Division
- Aggregate >= 40% and < 50%: Third Division
- Aggregate < 40%: Fail

Input Format:
- Four space-separated integers representing the marks in four subjects.

Output Format:
- The first line should print the total marks.
- The second line should print the aggregate percentage with two decimal places.
- The third line should print the grade.

Constraints:
- 0<=marks in each subject<=100

Sample Test Cases   +

```python
1   # Input marks for four subjects (space-separated)
2   marks = list(map(int, input().split()))
3
4   # Calculate total marks
5   total_marks = sum(marks)
6
7   # Calculate aggregate percentage
8   aggregate = total_marks / 4
9
10  # Determine grade based on aggregate percentage
11  if aggregate >= 75:
12      grade = "Distinction"
13  elif 60 <= aggregate < 75:
14      grade = "First Division"
15  elif 50 <= aggregate < 60:
```

Average time	Maximum time	✓ 5 out of 5 shown test case(s) passed
0.004 s	**0.009 s**	✓ 5 out of 5 hidden test case(s) passed
4.30 ms	9.00 ms	

✓ Test case 1 4 ms   🐞 Debug

Expected output	Actual output
85 90 78 88	85 90 78 88
341	341
85.25	85.25
Distinction	Distinction

✓ Test case 2 4 ms

▶ Terminal   ⊞ Test cases

‹ Prev   Reset   Submit   Next ›