

Selection Day Puzzle

1. There are $N = 25$ students
2. We need to pick $S = 3$ fastest students in a running race competition
3. We have a racing track of capacity $RT = 5$
4. We don't have a watch
5. All students runs at a different phase.

Time taken
to run

Name of
the student

What is the minimum number of races needed to identify first, second and third positions?

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|---|----|---|----|----|---|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 5 | 11 | 4 | 15 | 23 | 0 | 10 | 19 | 17 | 1 | 24 | 6 | 12 | 20 | 7 | 8 | 22 | 3 | 21 | 14 | 18 | 16 | 9 | 13 | 2 |

The fastest 3 students after **X** races are: 5 9 24

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 0 | 20 | 12 | 11 | 23 | 15 | 3 | 14 | 24 | 22 | 18 | 7 | 17 | 6 | 13 | 21 | 16 | 19 | 8 | 5 | 10 | 1 | 2 | 4 | 9 |

The fastest 3 students after **X** races are: 0 21 22

1. How many races are required?
2. if (show == True)

For every race you should print
Track num, Student num, Student time

Your output must be such that anyone executing your steps
should be able to conduct races with minimal number of races