

Task – Qualifying runners

The qualifying event for the 800m race is about to take place. The runners' times are recorded as they complete the first 400m lap and again for the second 400m lap. Runners who complete each lap in 58 seconds or less will qualify for the next stage of the championships. Today there will be a minimum of 2 and maximum of 8 runners in each race.

The program requires the following inputs:

- a valid number of runners
- the name of each runner
- the time taken to run the first lap
- the time taken to run the second lap

The output from the program should display each runner's name and indicate whether they have qualified for the next event.

An example is provided below

Runner Name	Qualified
D Haggerty	Yes

Your task is to create software to determine who will qualify for the next stage of the championships.

Partial Pseudocode

The top level algorithm is shown below. Steps 4 and 7 have been refined.

Pseudocode

MAIN STEPS

1. Get valid number of runners
2. Loop for number of runners
3. Get runner's name
4. Get a time for each lap
5. Decide if runner qualifies for next event
6. End loop
7. Display results

REFINEMENTS

4. Get a time for each lap
 - 4.1 Get time for first lap
 - 4.2 Get time for second lap
7. Display results
 - 7.1 Display headings
 - 7.3 Loop for number of runners
 - 7.4 Display runner's name
 - 7.5 Display qualifying decision
 - 7.6 End loop

