Hanoi Marathon

The organizers of the Hanoi Marathon want to modernize their systems and have asked for your help.

They will allow a maximum of 2,000 runners to participate in the race. When signing up, runners provide their name and they are then assigned a random number between 1 and 10,000 – each number should be unique.

As runners finish the race, their name is announced over the speaker system and their finish time recorded to the nearest whole minute. E.g. a time of 2 hours and 45 minutes would be recorded as 165. Anyone who does not finish the race should have their time recorded as 999.

You should:
1. Identify all variables required and their data types
2. Create a flowchart for a Sign-Up method. This should ask the user if they want to enter another runners' details, keep of track of the total number of runners entered, and allocate a random, unique number to each runner.
3. Code and test this method.
4. Sort the runners in order based on their race number
5. Ask your teacher for the Race Results method flowchart – Complete then implement this method.
6. Output the medal table (positions 1-3), displaying the Name, Position and Time of each runner.