

## Part 2

Greg wants a piece of software to display the tracks he has burned onto the CD-R along with the duration in seconds of each track. He also wants to display the total time of all the tracks on the CD-R.

The program should initially ask the user for the number of tracks to be listed. This should be validated. At least one track and no more than twenty can be burned onto a CD-R.

The program requires the following inputs:

- the number of tracks to be burned
- the title of each track
- the length in seconds of each track.

An example of the required output is shown below.

Supernatural Superserious	204 seconds
Another Way to Die	263 seconds
Jealous Guy	234 seconds
CD-R running time	701 seconds

Your task is to create software to solve this problem.

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

### **Pseudocode**

#### MAIN STEPS

1. Initialise total running time
2. Get valid number of tracks
3. FOR counter = 1 TO number of tracks
4.     Get required data
5.     Calculate total running time
6. NEXT counter
7. display track titles and track lengths
8. display total running time

#### REFINEMENTS

4. Get required data
  - 4.1 Get track title
  - 4.2 Get track length
  
7. display track titles and track lengths
  - 7.1 FOR counter = 1 TO number of tracks
  - 7.2     Print track title and track length
  - 7.3     NEXT counter

Tasks		Evidence required
1	Refine the following parts of the algorithm: <ul style="list-style-type: none"> <li>• Get valid number of tracks (step 2)</li> <li>• Calculate total running time (step 5)</li> </ul> (NOTE: <i>all refinements must include an algorithm and not simply use a feature of an event-driven language.</i> )	Pseudocode for steps 2 and 5
2	Create a program that matches the design given in the specification.	Listing of program
3	<ul style="list-style-type: none"> <li>• Complete the test data table shown below, adding a third set of test data that will test your validation.</li> <li>• Test your program using your test data and complete the test results table below.</li> </ul>	Completed version of test data table Printed output

Test Data Table		Name:			
	No of Tracks	Titles	Lengths	Expected Total Time	Actual Total Time
Run 1 Normal data	4	Human After Hours Run Starlight	250 233 355 241	1079	
Run 2 Extreme data	1				
Run 3 Exceptional data					