Car Racer Game

# Scenario

# Car Racer – in this game users choose a car (numbered one to 6). Then they choose a ‘race distance’ which should be between 5 and 15. A simulated die is rolled and if the car’s number comes up, it moves forward one space. The winning car is the one which gets to the race distance the first.

Your game should…

* Allow users to choose a car and a distance
* Race the cars. If you are using a text based programming language like Python, it is not necessary to show each step but the final outcome should be shown and it should be easy for users to see which car has won.
* Clearly state which car won and give the ‘time’ (ie: number of steps needed).Al

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| Variation 1 (recommended)A second variation of the game can include having cars numbered 1 – 12 and using the sum of two simulated dice to determine which car advances.Extension / Extra Features (optional)  * Set up the game so that it continues until we have a first, second and third placed car. * Ask users how many rounds should be played (choose a sensible maximum) * For each round allow them to choose a car (ie: stick with current car or switch to a different car) * If their car is first, they win 5 points, second, they win 3 points and third they win 1 point. At the end of all the rounds, tell the user how many points they have won.   *If you would like to implement additional features, please talk to your teacher to ensure that your plan is feasible. In your documentation please remember to justify your decisions (ie: explain why you have implemented any extra features and state why you have opted for a particular limit)* |

## Task

1. Decompose the problem (write down the decomposition on the template supplied)
2. For each part of the problem, write (and test) each piece of code. Before you write a piece of code, you should generate a quick test plan so that you can confirm that the code works correctly.
3. Combine your code into a fully working program
4. Test and debug your program to ensure that it works for expected, boundary and unexpected values
5. Ask a friend / parent to play your game. Watch them as they do this and make note of any changes that could be made to make the game easier to use
6. Make the changes identified in the previous step
7. Retest your game to ensure that it still works correctly