

Operating Systems

PR2

Name	Daniel
Surnames	Maestre Sánchez
UOC Username	dmaestresan

Step 5: Questions

Finally, answer the following questions about the practice:

- a) In step 2, you used the process termination code to communicate the result of the game to the croupier. However, this termination code is an integer while the result of the game can have a decimal. How did you solve this problem?
To solve this problem what I have thought has been to avoid those decimal results multiplying the result by 2. That always what will make us is to avoid the possible decimals, then once in the croupier program what it does is to divide it to be able to know the value. This serves to send the numbers in integer type. I believe that it is a good and practical solution not to make the code even more difficult.
- b) In step 3, how does the croupier know that each player has already written his result?
The croupier knows that each player has written his result because the program is designed in inheritance to the children and each file is synchronised directly with a player. The parent being the dealer. Resulting in the tracking of these steps:
- Creation of a file for each player: To this file is associated its PID and the PID of the croupier. Ensuring that each player has his own results file.
 - Waiting for players to finish: With this we get more robustness in the program because the croupier uses the waitpid function to wait for each player to finish. With this you get a blocking of the croupier, so that the players write their results in the file.
 - The results are read from the files: At the end the results are read from the files where the croupier reads them himself.
- c) In step 4, how do you guarantee that there can be no concurrency problems between the players when writing to the file?
To guarantee this possible concurrency problem, what is done is to sun block files (**fcntl**), with which we get a direct write and that is enhanced without interruption. This avoids conflicts in this way because no player can write to the file while another player is using it, thus guaranteeing a single write channel.