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| Tutorial #3  Program Design | B_attack_castle.jpg |
| **Instructions:**  Two armies are camped on the outskirts of either side of an enemy city. The generals of the armies can only communicate via messengers who must travel through enemy territory and are thus subject to delays or capture. The two generals have previously agreed on a plan of attack, but they must communicate to set up the attack time.  If one army attacks but the other doesn’t that army will be defeated and then the enemy city will attack and defeat the other army.  If the first general decides to send the message saying:  “*Let’s attack at noon tomorrow*”  One of three things could happen: 1. The message could intercepted when it is being sent to the second general. So Army1 will attack at noon, but Army2 won’t. Army1 will be defeated.2. The message could be received by the second general but the acknowledgement that is sent back could be intercepted. So Army2 will attack at noon, but Army1 won’t know if the message was received so Army1 won’t attack in case Army2 doesn’t.3. The message is received by the second general and the acknowledgement is sent back. So Army1 and Army2 attacked together, and defeat the enemy.*In groups of three or four students, think of five ways to help ensure that both armies attack together and succeed in defeating the enemy city.* Please note: One suggestion that is not valid is "Get them to agree an attack time beforehand", no good general decides on a strategy before seeing the battlefield. | |

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| **Submission:**  In the same Word document you have with all your labs and tutorials:  PROGRAM-DESIGN-PORTFOLIO.DOCX (or .DOC or .ODT)  add in five ideas you've had, and the names of the people in your group.  e-mail your document to Damian.Gordon@dit.ie with a subject heading of PROGRAM DESIGN TUTORIAL #3 and in the message of your e-mail please let me know your full name, your student number, the name of your programme, the programme code, the name of the module, the year you are in (first year), and your assignment.  **PLEASE NOTE: If you do not have the correct subject heading on your e-mail, or the correct filename, your submission WILL be rejected.** |
| **Marking:**  Please note, this tutorial is due for submission today at the end of this session. Each of these tutorials contributes to your final result in this module, so it's best to get the earlier ones done as well as you can, because as the labs continue on they will get harder, so you might as will pick up the easy marks early on. |