

Aggression: an amazing pen/pencil and paper game of Arithmetic

We have all played the famous pen/pencil and paper game “Battleship” in our school days. There's another game called “A little bit of Aggression” that's modeled in the image of “Battleship”. “A little bit of Aggression” is an amazing game of arithmetic that is immensely fun to play with. It can be played in the classroom as a part of the curriculum or it can also be a family favorite at your home or during your travel. All you'll be needing is a piece of paper and a pen/pencil.

Introduction

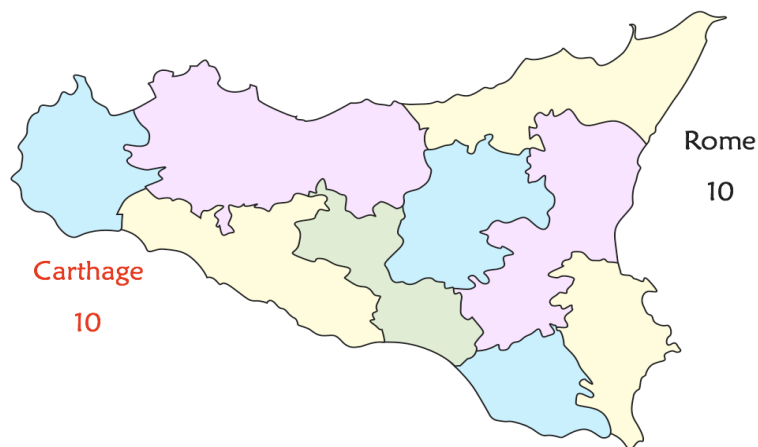
“A little bit of Aggression” is a type of virtual war-game that can be played between two players. This game was designed by [Eric Solomon](#), who was a game designer and a software developer. It's basically a game of arithmetic concerned mainly with the primary arithmetic operations involving addition and subtraction.

The Play

“A little bit of Aggression” is typically a form of two-player game. Each player has a limited number of armies ranging from 10 to 100 at the start. Each can deploy a number of armies as per his choice from the total number at his disposal in certain provinces on a specified map. A set of battles will then be fought between two players with the objective of neutralizing opposition armies. The player who has the most number of remaining provinces under his control in the end is declared the winner. If it's a tie, the player who has the most number of armies in the end should be declared the winner. Let's go through the game process in more detail.

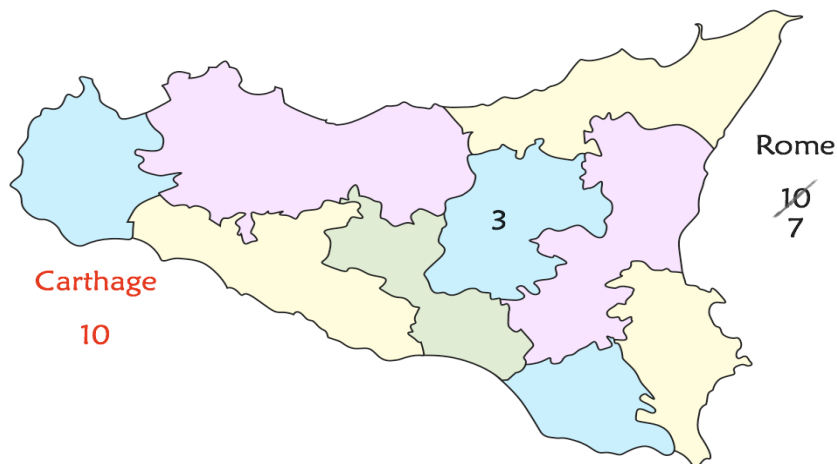
1. The players have to choose a specific map. You can draw one or you can download and print any one of them from [this pdf](#).

Decide on a beginning number of soldiers. Keep in mind that the maximum limit should be 100. Let's assume that the beginning number of soldiers is 10 and the selected map is shown in the picture below.

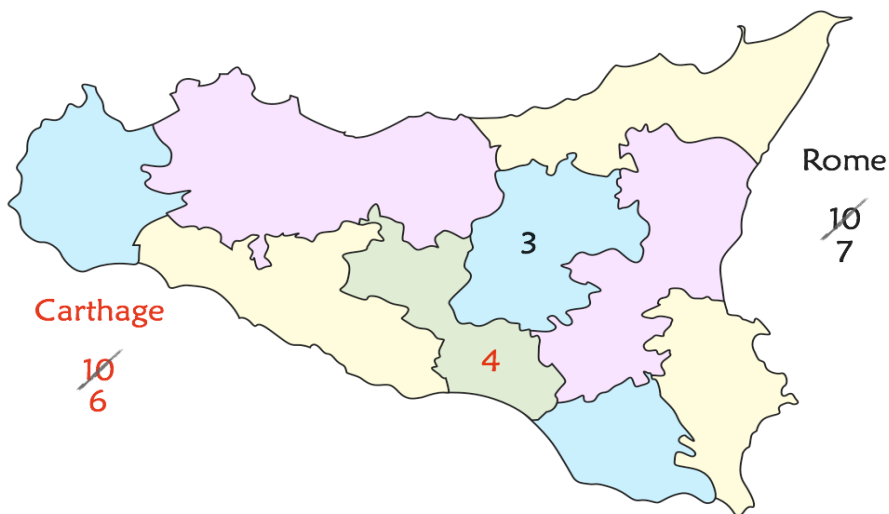


The two player names shown above are “Rome” and “Carthage”. Those two names are written in two colors for easy recognition.

2. Say, that the player represented in black ink (“Rome”) gets the first turn. You can also go for a toss to determine which player goes first. This doesn't necessarily have any advantage. In the picture, “Rome” deploys 3 of his/her armies in a province (shown in the picture below). The remaining soldiers under “Rome” are 7.

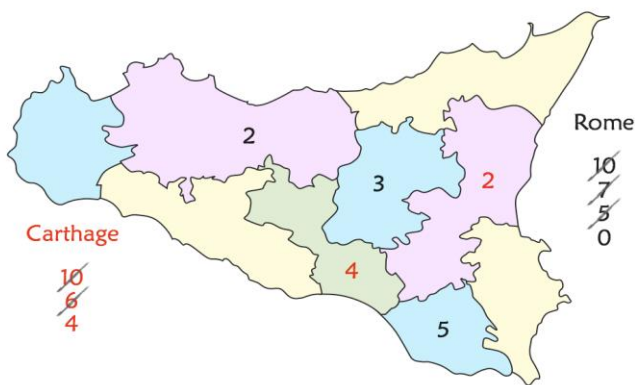


3. “Carthage” utilizes 4 of his/her soldiers in the picture below. Remaining players under “Carthage” are 6.

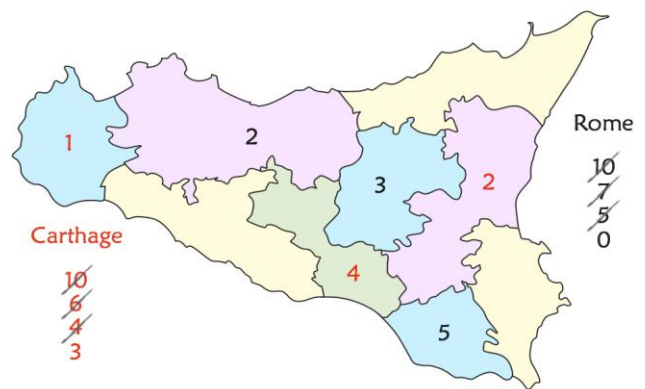


4. The deployment continues. Players continue to deploy soldiers as per turn. A point to be noted here is that players cannot deploy soldiers to a specific province where they have already deployed troops before. Both players will continue to deploy troops until they have exhausted their total number of troops.

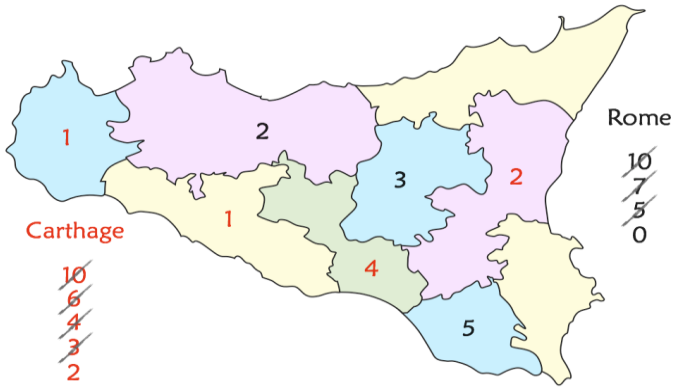
Consider, a situation where a player ('A') has exhausted his/her number of troops whereas the opposition ('B') still has a specific number of troops under his/her disposal. It's not necessary that in the next turn s/he ('B') has to deploy his/her entire number of troops in one go. S/He can deploy any number of troops as per his/her choice from the total number of troops under his disposal. The turn then comes to the player ('A') who has already exhausted the total number of armies at his/her disposal. So s/he has no option but to "Pass." The turn then comes back to B and it continues like this until B's number of troops is exhausted. You can go through the images below for a better explanation of this matter where the players are "Rome" and "Carthage", and "Rome has already exhausted his soldiers.



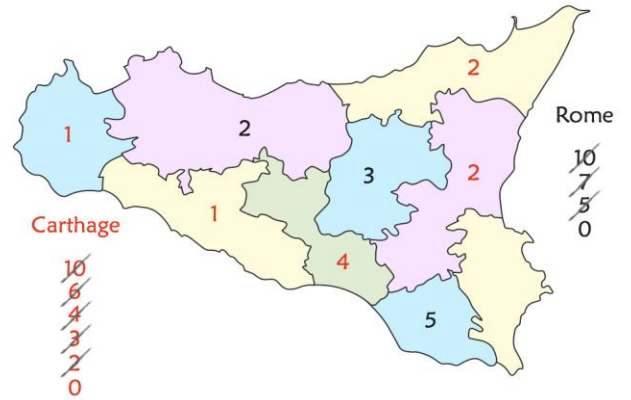
(i)



(ii)

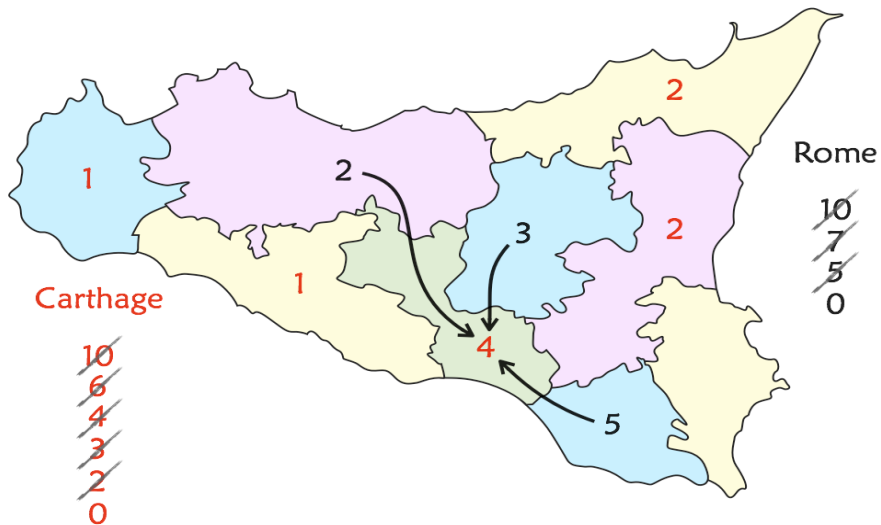


(iii)



(iv)

5. So we see that the deployment of troops is done and dusted by both teams. Now, let's get over to the main part, the battle. Refer to the picture below:



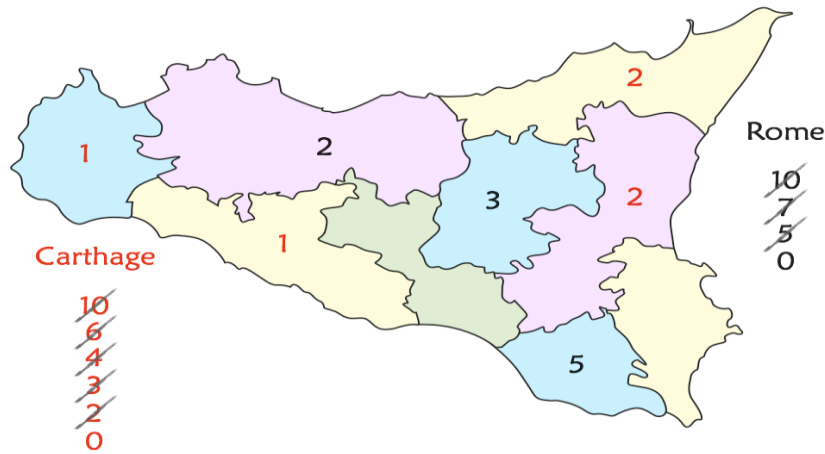
(v)

“Rome” has attacked the green province of “Carthage” in the center (picture above (v)). “Rome” has to sum up all his/her troops in his/her provinces located at the border of the specified province that's under

his/her attack. If that sum is more than the number of troops in that specified province under attack, the attack is successful. In the above case, $5+3+2=10 > 4$.

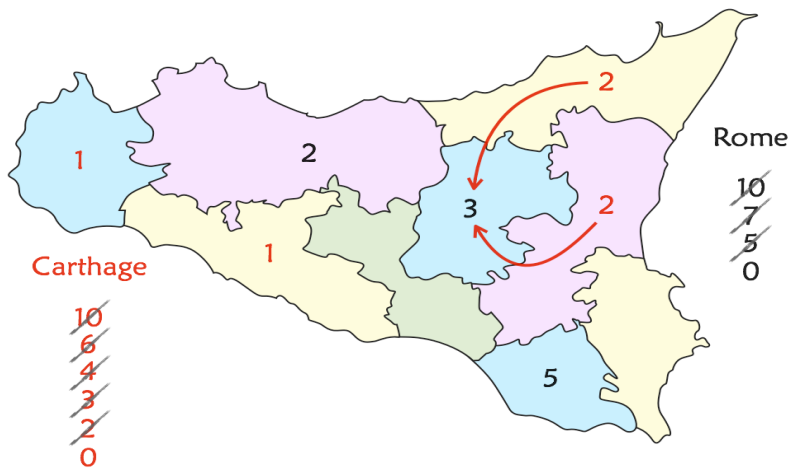
Therefore, the attack is successful. Now “Rome” has conquered the green province of “Carthage”. “Rome” can now remove those “Carthagian” soldiers by just erasing the number or by crossing off that number. Refer to the image below (vi).

Note: If the sum were less or equal to the number of troops in that specified province, the attack would have been unsuccessful.



(vi)

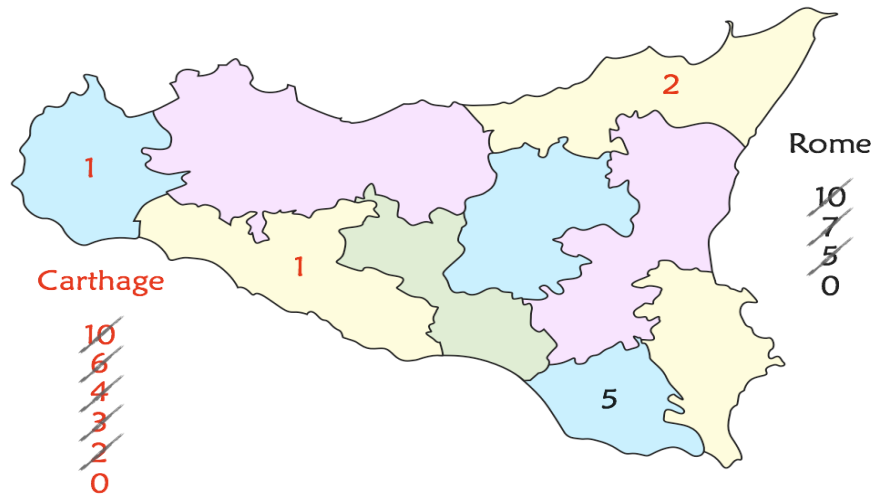
6. It's now “Carthage's” turn to attack. These attacks alternate among the two players until both of them opt for pass at some point. “Carthage” attacks the Roman province specified in the image below (vii). The attack is successful as well. $2+2=4 > 3$. Carthage can remove the Roman soldiers from that province.



(vii)

7. Thus, the game continues in this fashion until both players opt for a “pass” or none of them can perform a successful attack. If one player finally gives up at a point, it's not necessary for the game to stop at that point. If the opposition can still perform one or more than one successful attack(s), s/he can continue to do so. The game will only stop if both of them gives up. The winner will be the one who has the most remaining number of provinces. If it is a tie, the player having the most number of remaining soldiers win the game.

Let's go through the final result of the above game.



Final Result (viii)

Remaining province(s) under “Rome” is 1. Remaining province(s) under “Carthage” are 3. Therefore “Carthage” is the winner.

(All Pictures shown above are sourced from <http://mathpickle.com/about-mathpickle/>)

Benefits of this game

“A little bit of Aggression” has several benefits:

- It gives players a thorough practice of primary arithmetic operations (addition and subtraction).
- It develops strategic thinking abilities in players.
- This game is not only enclosed within the boundaries of Mathematics but it also inculcates other subjects like world history, geography etc.
- This game is immensely fun to play with and can be played virtually anywhere with just a paper and a pencil/pen.

A little bit of Aggression can be played by children as an after-school fun activity. Through this activity they can learn, develop strategic thinking and have fun at the same time.