

# ***Space-Invaders***

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## **New interfaces:**

GameLevel – An abstract interface. Used as a "deviser" (super) for 2 interfaces: GameLevelArk (the old GameLevel from ass6) and GameLevelAlien- the new GameLevel in ass7. I used an abstract interface because the duplication of codes between the old and the new interfaces. Therefore I created empty methods in the abstract GameLevel (different implementation in each interface) as well as same methods that may be used by these two.

HitListenerG / HitNotifierG – in this game we needed to deal with new listeners that were not used as listeners in ass6. For example, the Paddle was not a listener in the previous assignment. Therefore, the old HitListener/HitNotifier were not able to deal with Paddle as an input for their methods. Moreover, I created generic interfaces that now can deal with any kind of listener in ass7. Their methods are exactly the same methods in the older interfaces, but just with generic input (<T>).

## **New classes:**

Ass7game – contains Main methods, very similar to the class ass6game built in ass6.

GameInvaders – like GameFlow in ass6, this class runs the levels (battles in this game), as well as the highScoreTable Animation and the GameOver Animation at the end of the game. The player can't win in this game.

GameLevel – For dealing with the duplication in the old LevelGame and the new one, I created this generic class that is a "deviser" (super) of the new class "LevelGameAlien" and the old one "GameLevelArk".

GameLevelAlien – A developed GameLevel from ass6 that implements new methods such as shooting from army of aliens, Shields, etc.

Alien – this class is extend to the Block class, it has the same members and methods but the main difference is that the Alien has methods that makes him move in the game can, unlike the static Block.

AliensArmy – for dealing with a matrix compound from 50 Aliens, we needed the ability to treat this matrix as one object – each action (method) influence all Aliens together.

Shield – Similar to the AliensArmy, here I deal with a matrix of Blocks in one Shield. Inside Shield I created function that dealing with the case that the ball is hitting the Shield (also the Shield and the Blocks should disappear).

AlienRemover/PaddleRemover/ShieldRemover – in this assignment we had to deal with several object that supposed to disappear after the ball hits them. In the one hand, each and every object caused different actions in game, in the second hand they are classes that implements HitNotifier interface and of course share the same code. So, I created different methods that share the implementation but with little change inside of their classes.