

Video Games Store

Functional requirements specification and design

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Hashtable



| Name: | Rack |
| --- | --- |
| Abstract object | Rack <letterId = <letterId>, key = <key>, value = <value>, size = <size>> |
| Invariant | {inv: rack.letterId is unique} |
| Operations | * addVideogame * searchGame * decreseAvailableGamesAmount |

| addVideogame(videoGame) |
| --- |
| “Adds a video game in the rack” |
| pre: rack must exist, video game code is unique. |
| post: A new video game has been registered within the rack using a hash function to determine its index within the rack |

| searchVideogame(code) |
| --- |
| “search a video game within the rack” |
| pre: code must be numeric. |
| post: Returns the video game searched by its code |

| decreaseAvailableGamesAmount(copiesSelled) |
| --- |
| “decreases the integer that corresponds to the amount of video games available within the rack” |
| pre: copiesSelled < 0 |
| post: The integer that represents the amount of video games available within the rack has been decreased, this decrement depends on the amount of copies bought of that video game |

| Name: | Queue |
| --- | --- |
| Abstract object | Queue |
| Invariant |  |
| Operations | * enqueue * dequeue |

| enqueue(client) |
| --- |
| “search a video game within the rack” |
| pre: |
| post: Returns the video game searched by its code |

| dequeue(clientCode) |
| --- |
| “dequeues a client from the payment queue when he already pay all his products” |
| pre: queue.size() > 0 |
| post: The client referenced by his code has been removed from the payment queue |