**TABLA DE ESPECIFICACIÓN DEL PROBLEMA DE INGENIERÍA DE SOFTWARE, identificando los siguientes elementos**

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| CLIENTE | MercadoLibre company. |
| USUARIO | MercadoLibre clients (Sellers and Buyers) |
| REQUERIMIENTOS FUNCIONALES | R1- Register product.  R2- Product finder.  R3- Create order.  R4- Order finder.  R5- Edit a product.  R6- Eliminate a product. |
| CONTEXTO DEL PROBLEMA | The MercadoLibre company requires a system that allows the online sale of its virtual store, in which inventory can be entered, search and delete products and also register the orders made by users. |
| REQUERIMIENTOS NO FUNCIONALES | * The application must have data persistence using JSON serialization |
|  | * The program must handle exceptions to avoid unexpected states during product entry and search. You must provide informative error messages to guide the user in the event of an unexpected error. * The project MUST be developed using TDD. * Search engines must use the binary search algorithm to find matches in product records. * Throughout development, at least 10 commits must be made equally distributed. For each of the 10 commits, report 3 simple quality indicators in the repository readme file. |

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| Nombre o identificador | Register product. | | |
| Resumen | The application must allow the user to enter information about each product to be registered, including its name, description, price, quantity available, category, and number of times it is purchased. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| name | String | Doesn’t apply |
| description | String | Doesn’t apply |
| price | double | Must be a positive number. |
| quantityAvailable | int | Must be an integer greater than 0. |
| category | enum | It must be an option from the category list. |
| purchaseNumber | int | Must be an integer greater than or equal to 0. |
| Actividades generales necesarias para obtener los resultados | The user must have correctly registered the product data for the system to register it | | |
| Resultado o postcondición | The product that was registered is displayed along with a message indicating that it was successfully registered in the system. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| msj | String | Doesn’t apply |

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| --- | --- | --- | --- |
| Nombre o identificador | Product finder. | | |
| Resumen | The system must allow searching for products by name, price, category and number of times purchased. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| option | int | Being the variable in which the user chooses how they want to search in the order search engine, it must be a number between 1 and 3 since there are only these options. |
| name | String | Doesn’t apply |
| price | double | The user is asked to enter only one of these according to the search type choice they made. |
| category | enum |
| purchaseNumber | int |
| min | double | The user is asked if they have chosen the option to search by price or purchaseNumber. |
| max | double | The user is asked if they have chosen the option to search by price or purchaseNumber. Must not be less than or equal to min. |
| Actividades generales necesarias para obtener los resultados | The user chooses the search option they want and enters the relevant data. | | |
| Resultado o postcondición | A message with the complete list of products taking into account the search standard you have chosen. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| msj | String | Doesn’t apply |

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| Nombre o identificador | Create order | | |
| Resumen | The application must allow the user to enter information such as the buyer's name, list of products, total price, and date of purchase. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| buyerName | String | Doesn’t apply |
| productList | Arraylist<Product> | Doesn’t apply |
| totalPrice | double | It must be the sum of the prices of each product in the list of products multiplied by their respective quantity. It is calculated automatically by the system. |
| purchaseDate | Date | It is calculated automatically by the system. |
| Actividades generales necesarias para obtener los resultados | Have chosen at least one product to buy. | | |
| Resultado o postcondición | A list is displayed with the selected products, the total price to pay and once purchased, the quantity of products that have been purchased must be subtracted from the system available quantity of each specific product. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| msj | String | Doesn’t apply |

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| --- | --- | --- | --- |
| Nombre o identificador | Order finder. | | |
| Resumen | The system must allow searching by buyer's name, total price and date of purchase. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Option | int | Being the variable in which the user chooses how he wants to search in the order search engine, it must be a 1 or a 2 since there are only this number of options. |
| buyerName | String | Doesn’t apply |
| totalPrice | double | The user is asked to enter only one of these according to the search type choice they made. |
| purchaseDate | Date |  |
| min | double | The user is asked if they have chosen the option to search by total price. |
| max | double | The user is asked if they have chosen the option to search by total price. Must not be less than or equal to min. |
| Actividades generales necesarias para obtener los resultados | The user chooses the search option they want and enters the relevant data. | | |
| Resultado o postcondición | A message with the complete list of orders taking into account the search standard you have chosen. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| msj | String | Doesn’t apply |

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| Nombre o identificador | Edit a product. | | |
| Resumen | The system must allow the user to edit the values ​​of each product already registered. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| name | String | There must be a previously registered product with this name. |
| option | int | Being the variable in which the user chooses which element of a product he wishes to edit, it must be an integer between 1 and 5 since there are only this number of options to edit a product. |
| newName | String | The user will only be asked for one according to the value to be edited that he previously chose. |
| description | String |
| price | double |
| quantityAvailable | int |
| category | enum |
| Actividades generales necesarias para obtener los resultados | The user chooses the editing option he wants and enters the new data. | | |
| Resultado o postcondición | A message indicating that the product was successfully edited, the new product data, and if a product with the entered name was not initially found, the message indicates that said product does not exist. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| msj | String | Doesn’t apply |

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| --- | --- | --- | --- |
| Nombre o identificador | Eliminate a product. | | |
| Resumen | The system must allow the user to delete an existing product. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| name | String | There must be a previously registered product with this name. |
| Actividades generales necesarias para obtener los resultados | The user enters the name of the product they want to delete. | | |
| Resultado o postcondición | A message in which, in case of not having found the product with the name that was entered, it indicates that said product does not exit, otherwise, it indicates that it was successfully deleted. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| msj | String | Doesn’t apply |