# Algoritmos y Programación II

# Identificación del problema y análisis de requerimientos – Tarea Integradora II

| Cliente | Mercado Libre |
| --- | --- |
| User | Mercado Libre worker |
| Requerimientos funcionales | 1. **Register product:** The system must allow the user to register a product, which must contain a name, description, price, category and number of sales. 2. **Create order:** Register orders for what users want to buy. 3. **Order finder:** The app has an order finder, it lets the user search different orders under some of their characteristics. 4. **Product finder:** The app has a product finder, which will allow finding products by writing their characteristics of it. 5. **Increase the number of products:** The app must let users increase the number of products at any given time. 6. **Decrease the number of products:** The amount of product that is registered in the app can decrease when an order is placed. |
| Contexto del problema | The company Mercado Libre wants to create an app to sell products online. This app lets the workers add products to the store, enter order information, create orders and find them, same with products. It should also let the user search products and orders with a binary search that implements ranges so the user can search between two different values. |
| Requerimientos no funcionales | -Use of programming language “Java”.  -Requires the use of serialization in JSON format, the app needs to save the information in a JSON file and this file needs to be open every single time the app is open. |

| Nombre o identificador | **R1- Register product:** The system must allow the user to register a product, which must contain a name, description, price, category and number of sales. | | |
| --- | --- | --- | --- |
| Resumen | When the user enters the system, it must allow the registration of products with all the aforementioned parameters, there are also different types of categories such as Books, Electronics, Clothing and accessories, Food and beverages, Stationery, Sports, Beauty and care products staff, Toys and games. | | |
| Entradas | **Nombre entrada** | **Tipo de dato** | **Condición de selección o repetición** |
| nameProduct | String |  |
| description | String |  |
| price | Double |  |
| category | String |  |
| numberSales | int |  |
| Actividades generales necesarias para obtener los resultados | - The user selects the option register product.   * The user enters valid information. | | |
| Resultado o Postcondición | The product will be added to the catalog of the app. | | |
| Salidas | **Nombre salida** | **Tipo de dato** | **Condición de selección o repetición** |
| productAdded | String |  |

| Nombre o identificador | **R2- Create order:** The app lets the user create an order with its characteristics. | | |
| --- | --- | --- | --- |
| Resumen | The app lets the user create an order made in the app, the order has to have the name of the buyer, the name of the product, the total of products in a list and the total to pay, and the date when the order was made. When an order is placed the amount of the products in the inventory will decrease. | | |
| Entradas | **Nombre entrada** | **Tipo de dato** | **Condición de selección o repetición** |
| buyerName | String |  |
| productName | String |  |
| quantityProduct | int | type an int or valid quantity, must exist. |
| orderDate | Date |  |
| Actividades generales necesarias para obtener los resultados | The user must enter the information necessary to create the order. | | |
| Resultado o Postcondición | The order is created and saved in the app. | | |
| Salidas | **Nombre salida** | **Tipo de dato** | **Condición de selección o repetición** |
| orderCreated | String |  |

| Nombre o identificador | **R3- Order finder:** The app has an order finder, it lets the user search different orders under some of their characteristics. | | |
| --- | --- | --- | --- |
| Resumen | The finder lets the user search an order by the name of the buyer, the total to pay or the date when the order was made. The finder lets the user search by a range of two values. | | |
| Entradas | **Nombre entrada** | **Tipo de dato** | **Condición de selección o repetición** |
| buyerName | String |  |
| totalToPay | Double |  |
| orderDate | Date |  |
| Actividades generales necesarias para obtener los resultados | The user needs to write at least one of the three search parameters to find an order. | | |
| Resultado o Postcondición | The order that the user is searching for is found or the order isn't in the app so it can’t be found. | | |
| Salidas | **Nombre salida** | **Tipo de dato** | **Condición de selección o repetición** |
| orderFound | String |  |

| Nombre o identificador | **R4- Product finder:** The app has a product finder, this will allow finding products by writing the characteristics of it. | | |
| --- | --- | --- | --- |
| Resumen | The app has a product finder, which will allow users to find products by writing the name, price, category and the number of times purchased. Also, the application must allow searches by range for numeric attributes, such as price, quantity on hand or number of times purchased. The user must be able to specify a minimum and maximum value to search for products within that range. Besides, the User chooses the number of times purchased and selects descending order. | | |
| Entradas | **Nombre entrada** | **Tipo de dato** | **Condición de selección o repetición** |
| nameProduct | String |  |
| priceProduct | double |  |
| category | String |  |
| limitLowPrice | int |  |
| limitHighPrice | int |  |
| Actividades generales necesarias para obtener los resultados | The product must have been previously registered in order to appear in the list of products chosen by the user when entering a letter or word. | | |
| Resultado o Postcondición | * The product searched for by the user or the list of products closest to the one searched for will appear. Also, a report of all products will be given according to the chosen price range, sorted from the lowest number of times purchased to the highest number of times purchased. | | |
| Salidas | **Nombre salida** | **Tipo de dato** | **Condición de selección o repetición** |
| productFind | String |  |
| reportProduct | String |  |

| Nombre o identificador | **R5- Increase the amount of products:** The app must let the user increase the number of products at any given time. | | |
| --- | --- | --- | --- |
| Resumen | The app lets a user change the amount of product that is registered, for increasing the user needs to add at least one more unit. | | |
| Entradas | **Nombre entrada** | **Tipo de dato** | **Condición de selección o repetición** |
| productToAddAmount | String |  |
| amountToAdd | Int |  |
| Actividades generales necesarias para obtener los resultados | The user must enter the name of a product that is already registered and has to give a number greater or equal than one. | | |
| Resultado o Postcondición | The amount of product is updated with the new units that were registered. | | |
| Salidas | **Nombre salida** | **Tipo de dato** | **Condición de selección o repetición** |
| amountAdded | String |  |

| Nombre o identificador | **R6- Decrease the number of products:** The amount of product that is registered in the app can decrease when an order is placed. | | |
| --- | --- | --- | --- |
| Resumen | The amount of product in stock will decrease when an order is placed by the user, if there isn’t enough stock for the order the system will send an error. | | |
| Entradas | **Nombre entrada** | **Tipo de dato** | **Condición de selección o repetición** |
| productsOnOrder | int |  |
| amountOfEachProduct | int |  |
| Actividades generales necesarias para obtener los resultados | The order has to have at least one product for it to decrease the stock that is saved on the app. | | |
| Resultado o Postcondición | The amount of each product in an order will decrease in the stock of the app. | | |
| Salidas | **Nombre salida** | **Tipo de dato** | **Condición de selección o repetición** |
| stockDecreased | String |  |