**Inventory Management System**

**Introduction :**

This is a report of inventory system with invoice . We can add different products to our inventory and create invoice pdf and csv report of our transactions . We can also update the product and remove the product from our inventory.

**Tool/Language/Technologies used:**

Python, flask , python unit test, fpdf , csv, OOPs

**Approach :**

I have created a inventory system that can be used in any store to record the stock and create transaction for each purchase and generate a invoice of the transaction and also generate a report of all transaction sales and return in csv format.

We have a cli with different options in which first we have to add products and then we can create sales of products and also generate returns of products . I have not used any type of database in it. We can use it to persist the data .

We will add the products that will be added to inventory and then we will generate the transactions on those products and then we generate invoice of transaction and once the pdf is generated the system is ready to create new transaction . We can dump the invoice to a sql database. We can only generate one transactions at a time. After adding all the product in transaction we generate the invoice.

Challenges faced:

1. First challenge was to think about the low level design of the inventory system . Although we there are many inventory system in the market and online . In order to create the LLD design I need to set the functional requirement from my inventory system . I have the set the functional requirement of the inventory system
2. Add products to the inventory
3. Update the product in the inventory
4. Remove the product from the inventory
5. Create a sales and add the sales to the transaction
6. Create a return and add the quantity back to product
7. Create the invoice of the transaction and create a pdf of it
8. Record the transactions and create a report in csv format

I have written down the functional requirement and create a inventory system according to that.

1. To create a csv and pdf file for our invoice and report and to do that I have used fpdf and csv to generate the pdf and csv file
2. Now I have to create all the different classes according to the functional requirement .
3. Class Products: this is a class which will help us to create individual product and update the product info
4. Class Inventory : this will have the product dictionary to record all the product and help us to track all the product
5. Class Transaction : this will help us to record the product that are being sold
6. Class sales and returns : we will interact will transaction class using sales and return class using inheritance for product sell and product returns
7. Class Invoice : it will be used when we want to create the invoice pdf and we will have generate pdf method in this class .
8. I have to add different options in cli for interaction so I have added these options for interactions.
9. Add Product
10. View Product
11. Update Product
12. Delete Product
13. Record Sale
14. Record Return
15. Generate invoice
16. Generate Report
17. Exit