

**DEPARTMENT OF COMPUTER & INFORMATION SYSTEMS ENGINEERING**  
**BACHELORS IN COMPUTER SYSTEMS ENGINEERING**

**Course Code: CS-116**

**Course Title: Object Oriented Programming Complex Engineering Problem**

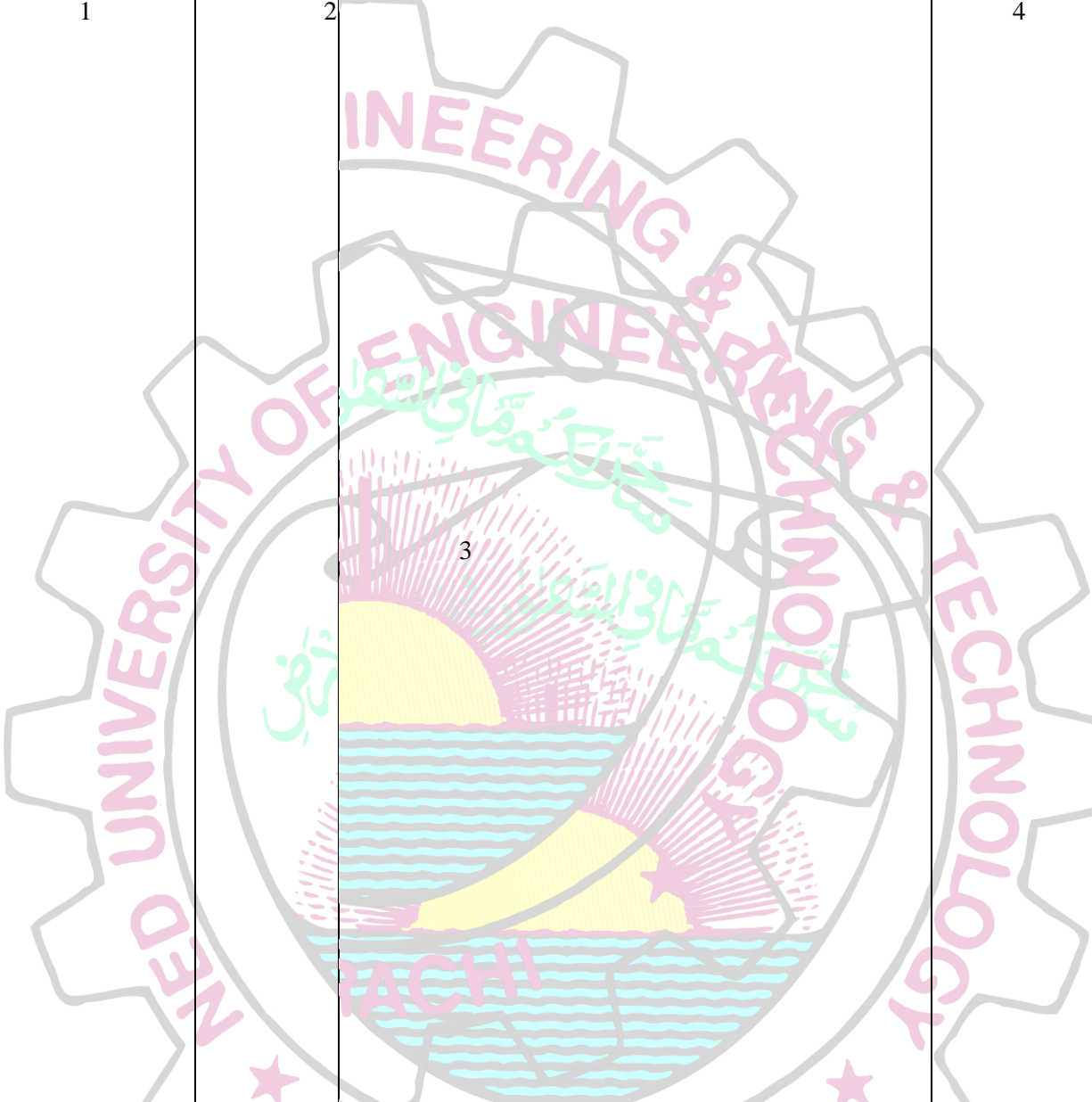
**FE Batch 2020, Spring Semester 2021 Grading Rubric**

**TERM PROJECT**

**Group Members:**

<b>Student No.</b>	<b>Name</b>	<b>Roll No.</b>
S1	Syed Muhammad Taha Waqar	CS-20129
S2	Syed Arham Hasan	CS-20011
S3	Umar Khalid	CS-20030

<b>CRITERIA AND SCALES</b>				<b>Marks Obtained</b>		
				<b>S1</b>	<b>S2</b>	<b>S3</b>
Criterion 1: Does the application meet the desired specifications and produce the desired outputs? (CPA-1, CPA-3)						
1	2	3	4			
The application does not meet the desired specifications and is producing incorrect outputs.	The application partially meets the desired specifications and is producing incorrect or partially correct outputs.	The application meets the desired specifications but is producing incorrect or partially correct outputs.	The application meets all the desired specifications and is producing correct outputs.			
Criterion 2: How well is the code organization?						

1	2	3	4
			

The code is poorly organized and very difficult to read.	The code is readable only to someone who knows what it is supposed to be doing.	Some part of the code is well organized, while some part is difficult to follow.	The code is well organized and very easy to follow.
----------------------------------------------------------	---------------------------------------------------------------------------------	----------------------------------------------------------------------------------	-----------------------------------------------------

Criterion 3: How friendly is the application interface? (CPA-1, CPA-3)

1	2	3	4
The application interface is difficult to understand and use.	The application interface is easy to	The application interface is very easy to understand and use.	The application interface is very interesting/ innovative and

	understand and but not that comfortable to use.		easy to understand and use.			
Criterion 4: How does the student performed individually and as a team member? (CPA-2, CPA-3)						
1	2	3	4			
The student did not work on the assigned task.	The student worked on the assigned task, and accomplished goals partially.	The student worked on the assigned task, and accomplished goals satisfactorily.	The student worked on the assigned task, and accomplished goals beyond expectations.			
Criterion 5: Does the report adhere to the given format and requirements?						
1	2	3	4			
The report does not contain the required information and is formatted poorly.	The report contains the required information only partially but is formatted well.	The report contains all the required information but is formatted poorly.	The report contains all the required information and completely adheres to the given format.			
Total Marks:						

## NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY

**DEPARTMENT: COMPUTER SYSTEM AND INFORMATION TECHNOLOGY ENGINEERING**

**COURSE : OBJECT ORIENTED PROGRAMMING (CS-116)**

### **SUBMITTED BY:**

- SYED MUHAMMAD TAHA WAQAR ALI (CS-20129)
- SYED ARHAM HASAN (CS-20011)

- UMAR KHALID (CS-20030)

SUBMITTED TO:

- MISS MARIA WAQAS
- MISS FAUZIA YASIR

## **INTRODUCTION**

This CEP is developed using Python Programming Language. In this project we have designed a online shopping cart with the help of advanced python features. The project is based on GUI using Tkinter module. This project lets any user buy any particular product that's available on our list. We have inserted images with respect to every product for the ease of use and for the sake of being user friendly.

## **PROBLEM DESCRIPTION**

We have designed an online shopping cart so that any user can buy any products of their choice by just at the comfort of their home.

## **PROCEDURAL**

## **WORKING**

The procedure of our project and the procedure the user has to go through :

- Upon coming to the main window, the user has to create an account to sign in
- The user can explore the shop but cannot buy anything until he has a valid account
- On the window there are 2 options i.e “login”, if the user already has an account and “join us”, to sign in and sign up the account.
- After the login process, the window shows the bundle and hot deals and it shows the recommended products by the shop itself

- Upon clicking on the menu, several categories of products open from which the user can select anything
- The products which are selected are added into the cart and the corresponding prices are also shown in the cart
- There is a slider attached with the image of every product which indicates the quantity of that product
- Once the user has selected all the desired product's he can view it through the view cart button in which all the details of his expenditure will be given
- He can select and remove the items at any time
- Once the user has bought the items it is automatically saved in his shopping history
- In the cart history, all the previous bought items are shown to the user
- The user can check out after buying the items and he will return back to the sign in sign up screen.

## **DISTINGUISHING FEATURES OF OUR PROJECT**

We have designed this GUI project by implementing 6 classes:

- CSVfiling
- Login\_info
- User\_info
- Display\_products
- Front\_page
- Cart

### **1.CSVfiling**

In this class we are basically setting up the filing process through using canvas. We are setting up the files in which the data will be saved and especially in which format will it be saved by using functions i.e “**setting fields**” and “**setting rows**”.

The writing and reading of a file is done by using the functions “**writing to file**” and “**reading from file**”.

## 2.Login info

In this class we have constructed and organized the working of sign in, sign up and login. Firstly, the user will login the window if he already has the account made, for that we have used the function “**login**”.

The user has to eventually logout after the purchasing the items by clicking on the logout button. This has been done by using the “**logout**” function.

When the user is done exploring and buying item's he/she has to logout, and comeback to the sign-up screen. How this process will be implemented is done by using a user defined function “**log\_out\_window**”

For the case, if the user doesn't have an account, then he has to create one by clicking on sign up button and a sign-up box will open where he has to provide his credentials that are required and the information he provided will be automatically to the file generated before. It will also give a message if upon logging in the account information inserted is wrong. This process is done by using the following functions:

- “**login**”
- “**logout\_window**”
- “**sign\_up**”
- “**file\_login**”
- “**file\_signup**”
- “**open**”

## 3.File Handler

This class is inherited from the built-in “ABC” in Python. This inheritance denotes that “FileHandler” is an abstract class which provides the framework for the filing done in the application. It contains two methods:

1. writing\_to\_file
2. reading\_from\_file



## **4.Display products**

In this class, we have coded every single detail for all the products present in our list. We have extracted the quantity values of the products through “get\_value” function. We have written code for every product for its color and for its image where will it show and what’s going to be the price of it. We have inserted images for every particular product. Whatever the user does, if he adds the product by one or increases its quantity it will be appended to the data saving file. Hence all the work on the products that needs to be done is done by through this class

## **5.Front page**

This class is inherited by all the classes coded before. First the geometry of the front page is coded and the position of the products, deals, buttons, menu bar which are all presented on the front page are set up through this class. The forward and previous buttons and the background picture and the colors of every particular element is coded through methods and functions

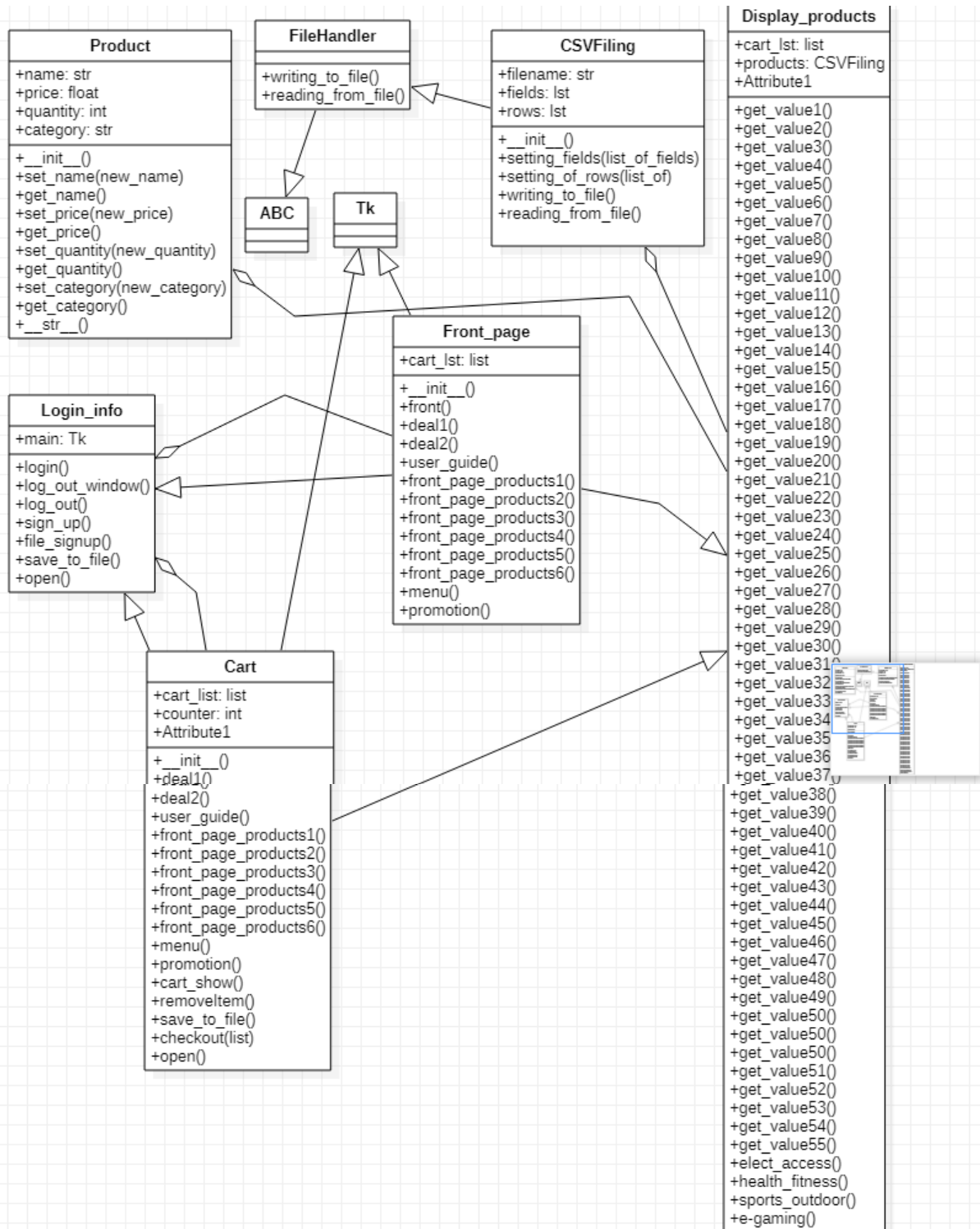
## **6.Cart**

Whenever the user buys something its automatically saved in the file. The display of the cart, the allowance of Removing a particular item and the geometry of the cart show is also done through this class. We have designed a user guide for the user which he can click on and see that in what simple steps he can explore and buy the products.

## **BACK-END FILING:**

We have 3 csv files that does the work of filing. First file is products.csv file in which all the products that are present in our list are saved. The next two files are data.csv and cart.csv in which all the previous products that are bought by a particular user has been stored and in the other file the account information of the user is saved.

# FLOW OF THE PROJECT:





## **MOST CHALLENGING PART OF OUR PROJECT:**

Most challenging part was implementing OOP in GUI.

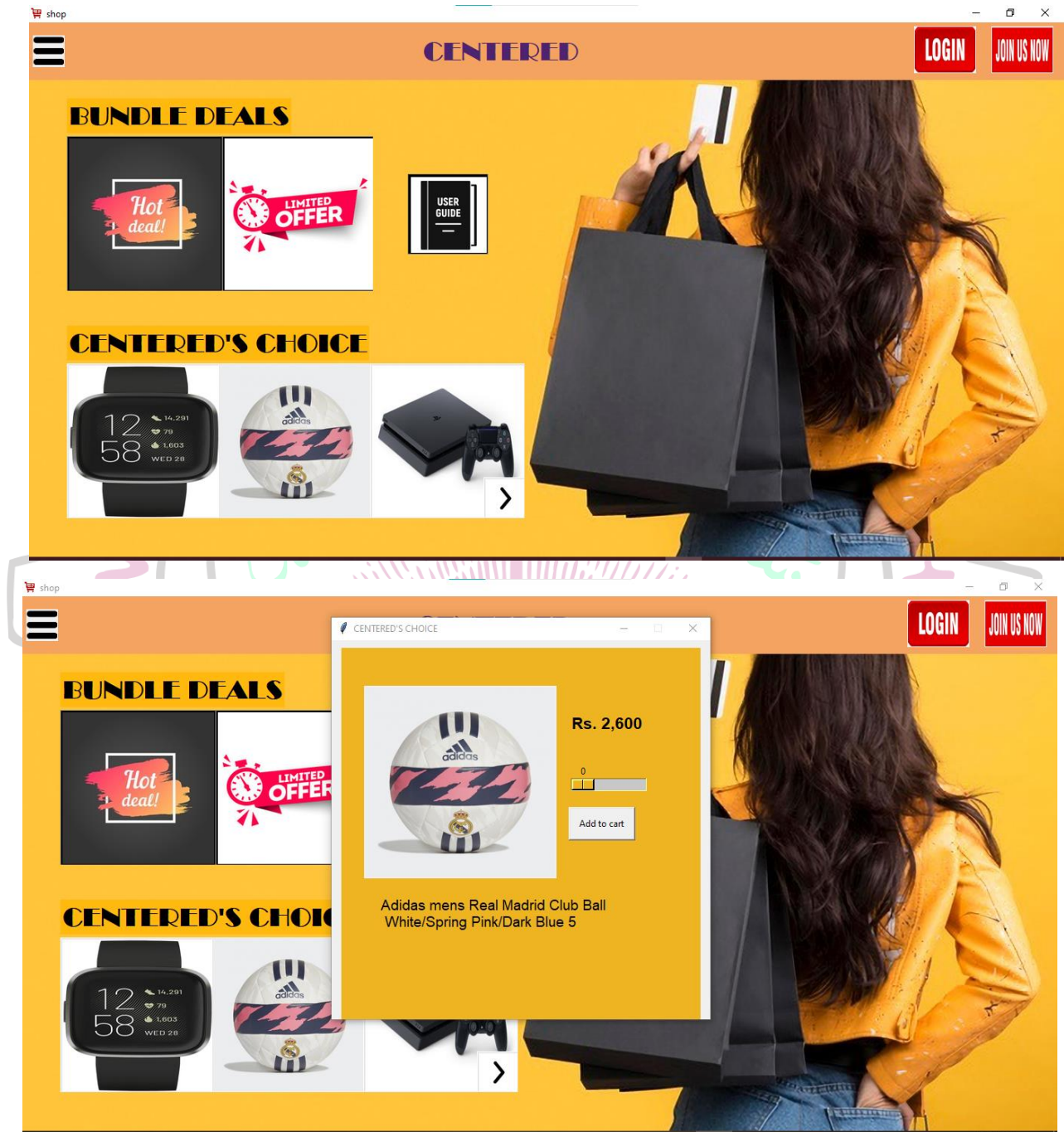
## **NEW THINGS WE LEARNT IN PYTHON:**

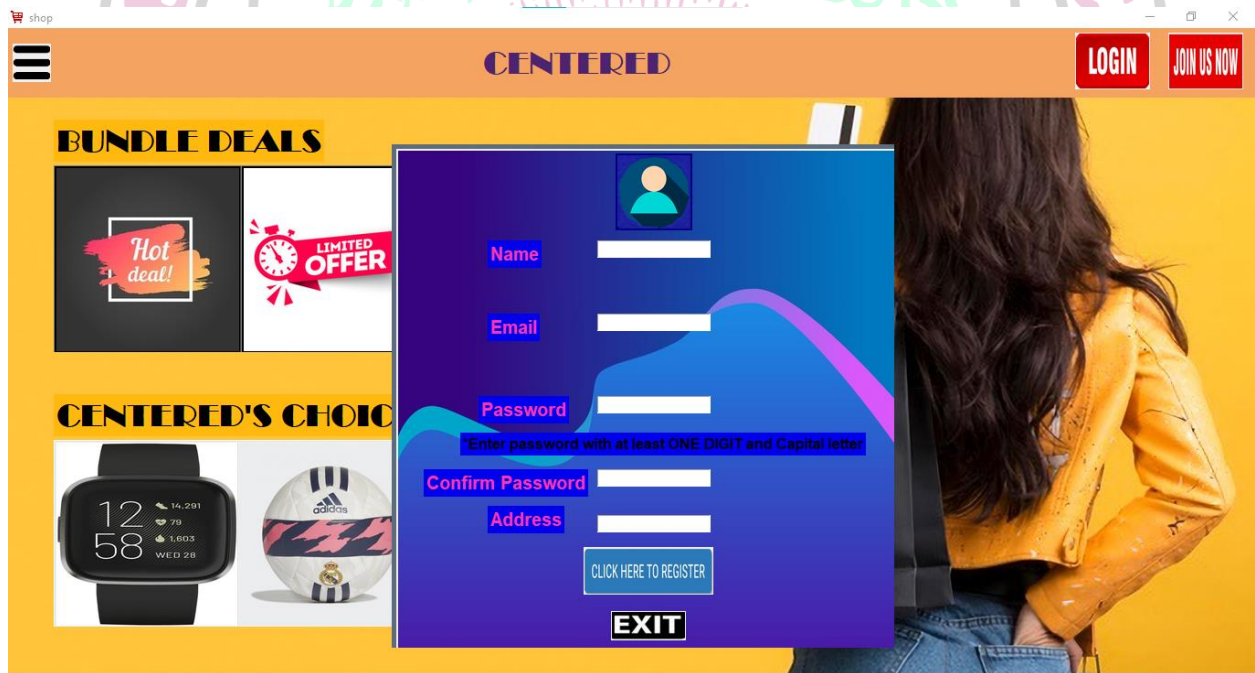
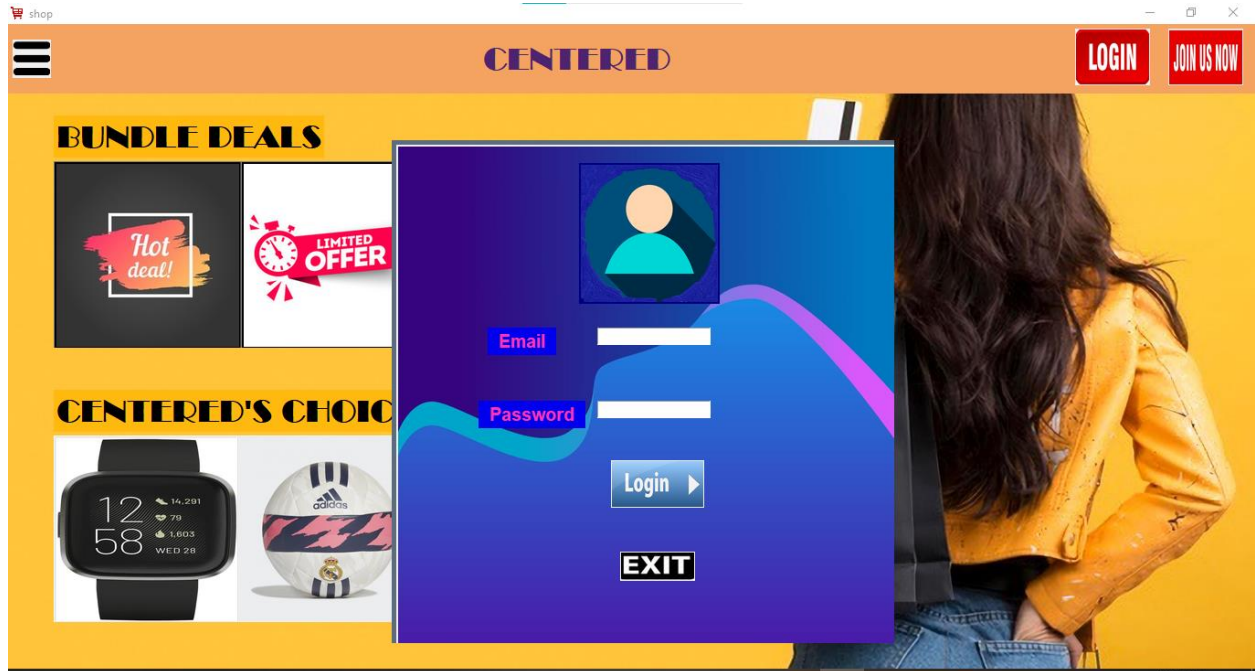
- We learned how to work as a group and execute the task by managing time
- We were not much similar with GUI. This project raised our interest in it much more as we got to work with it
- We learned the csv format we never used it before and it was really helpful in filing and executing the code.

## **FUTURE EXPANSIONS:**

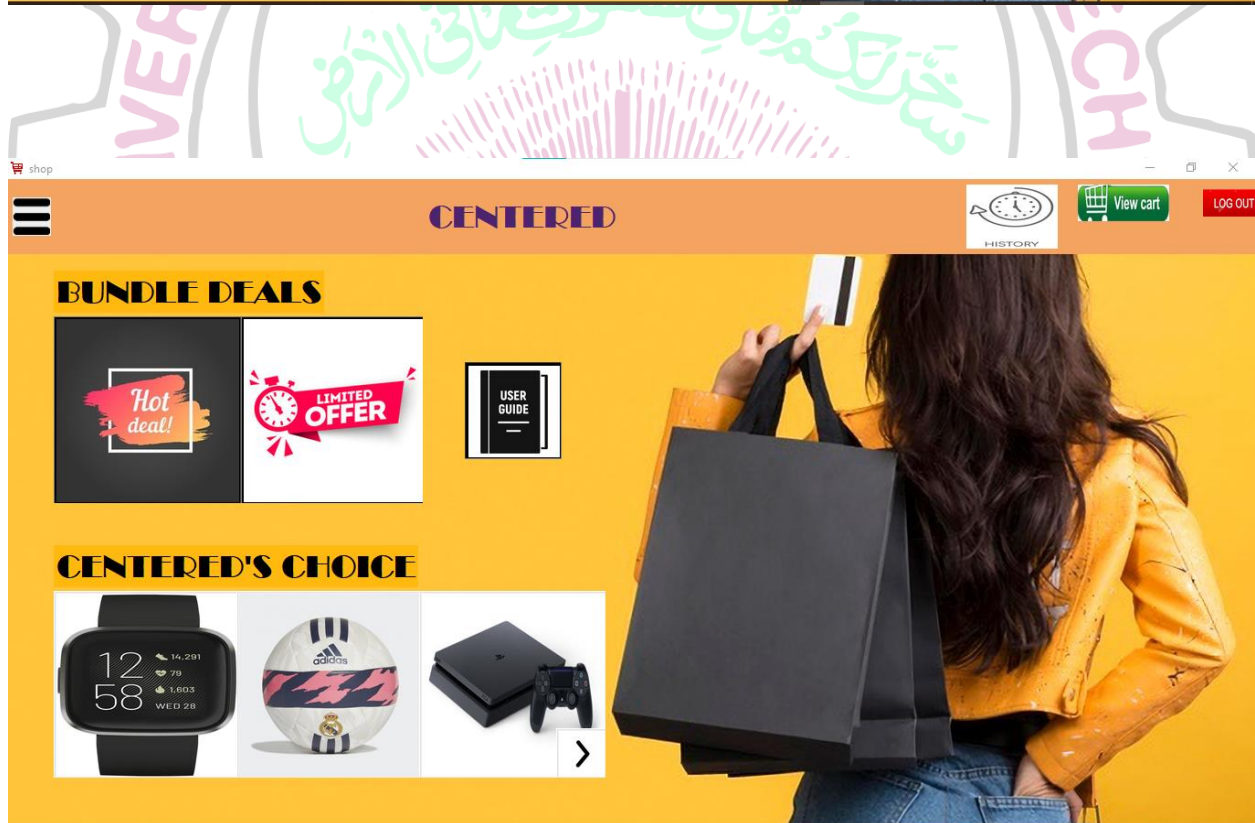
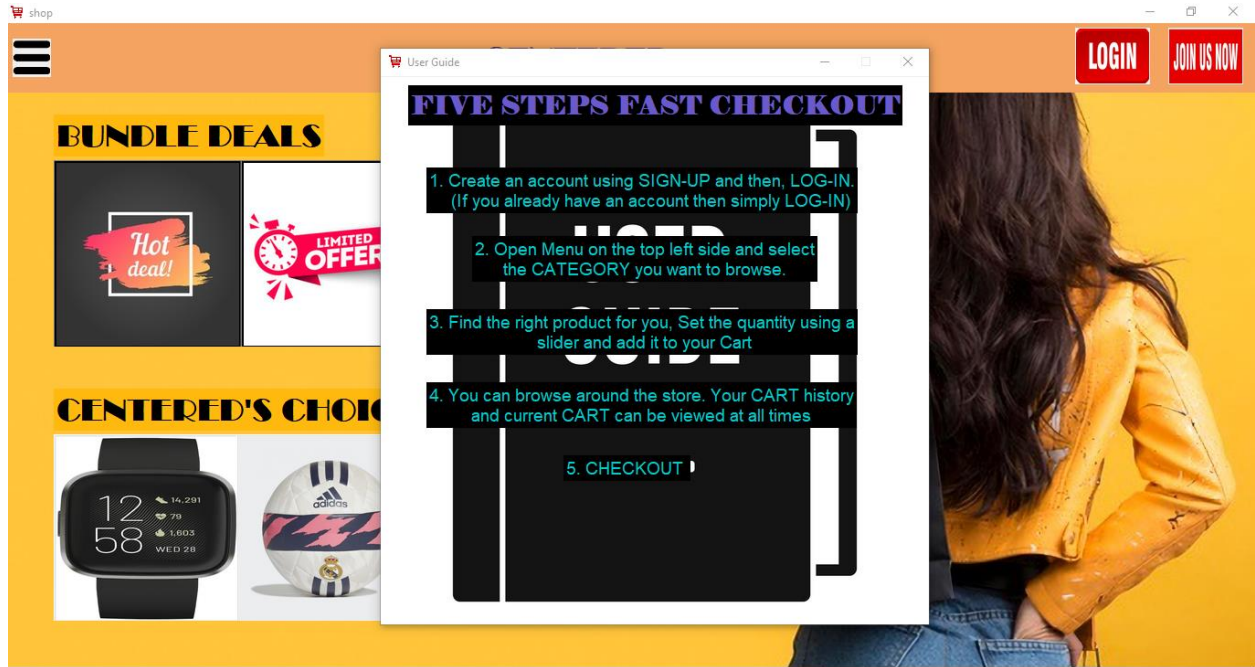
- We can add an online payment option through different ways like credit card, debit card.
- we can add the information of the seller as we see it on apps like amazon etc
- we can add an option for the sizing of the clothes so that its easy for the user
- to buy the garment.

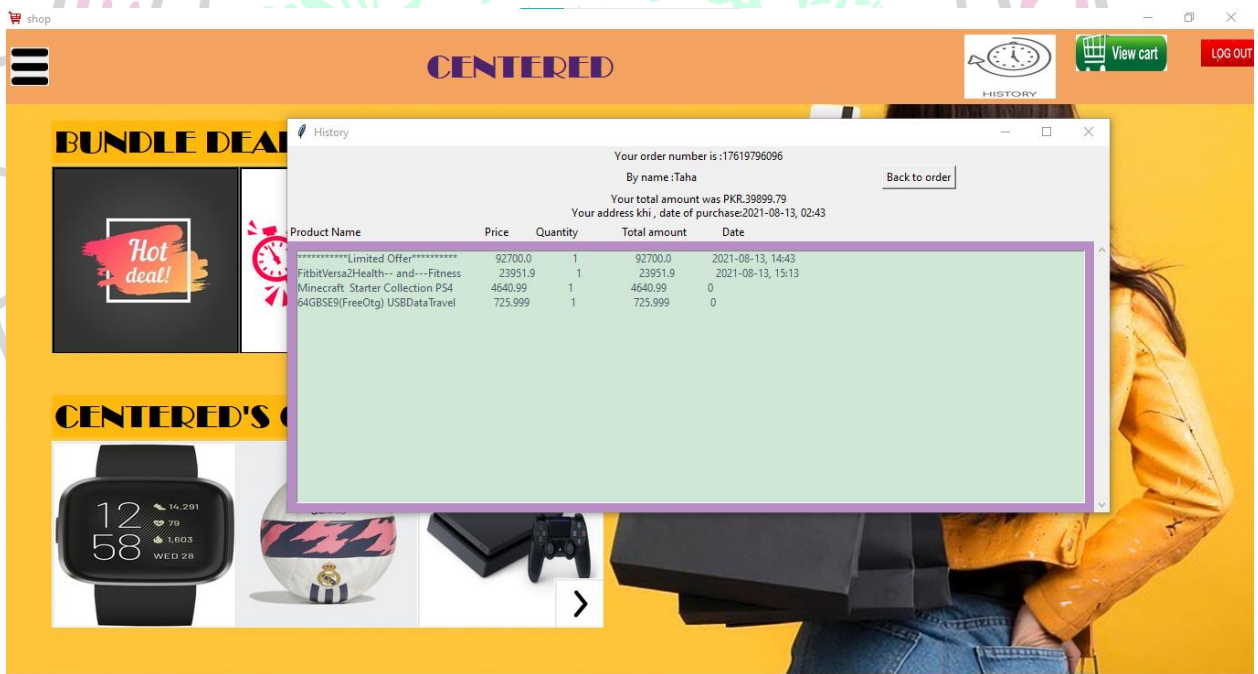
# TEST RUNS













ELECTRONIC ACCESSORIES

WATCHES AND EYEWEAR

HEALTH AND FITNESS

SPORTS AND OUTDOOR

E-GAMING

EXIT

CENTERED

HISTORY
 View cart
 

LOG OUT

## WATCHES AND EYEWEAR

Fossil Men's the Minimalist Stainless Steel Slim Casual Quartz Watch

Rs. 10,287

0

Add to cart

NAVIFORCE Luxury Brand Men's Quartz Multi-function Waterproof Watch With Brand Box - NF9188

Rs. 2,899

0

Add to cart

Fitbit Versa 2 Health and Fitness Smartwatch with Heart Rate, Music

Rs. 23,951

0

Add to cart

NEXT PAGE

shop

CENTERED

HISTORY
 View cart
 

LOG OUT

## BUNDLE DEAL

## CENTERED'S

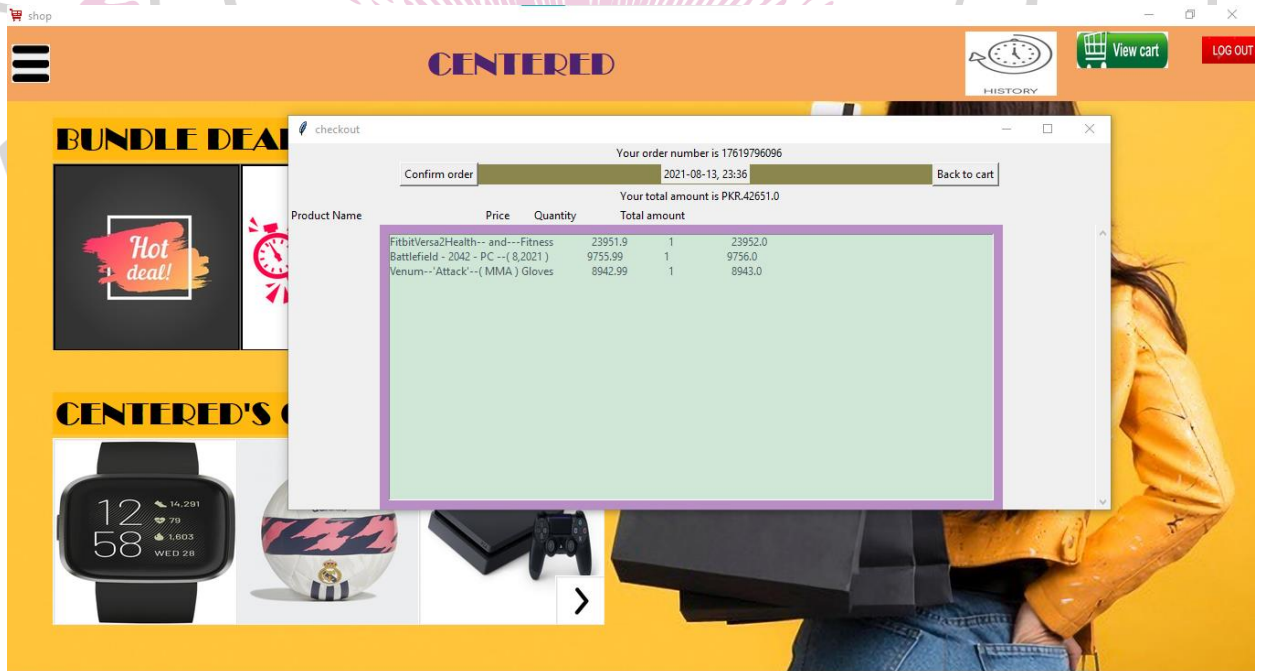
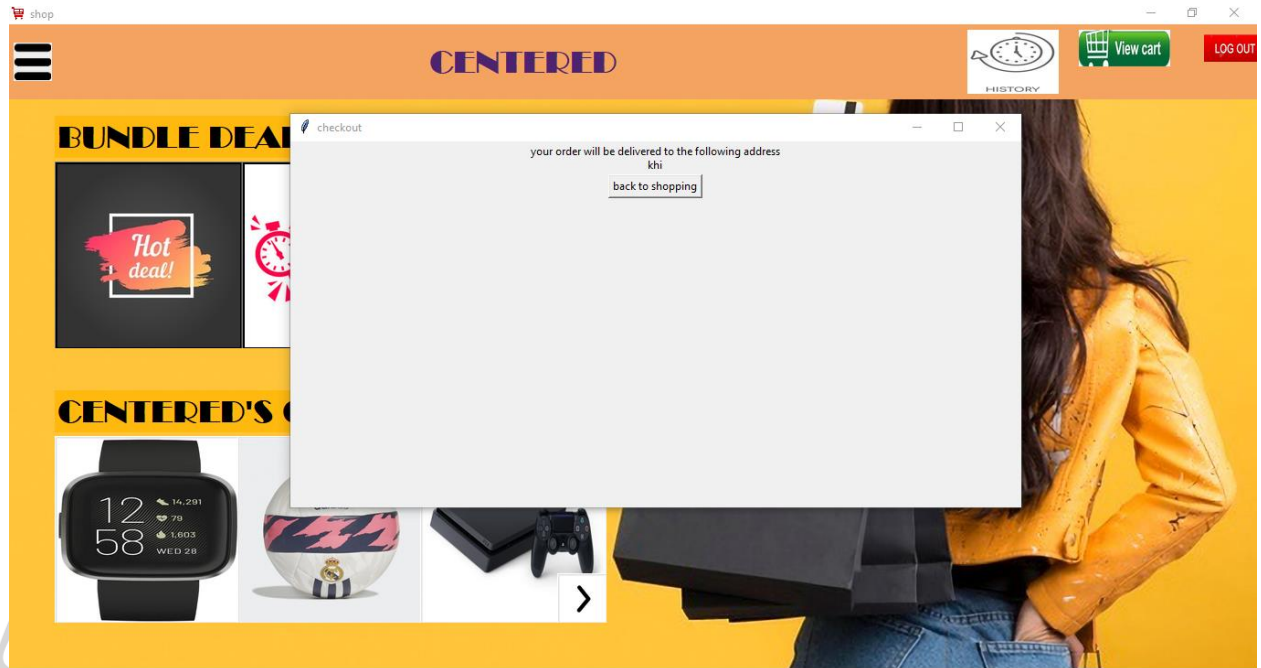
shop

Welcome to your cart Taha

Checkout

Select and remove item

Product Name	Price	Quantity	Total amount
FitbitVersa2Health---and---Fitness	23951.9	01	23952.0
Battlefield - 2042 - PC --( 8,2021 )	9755.99	01	9756.0
Venum--'Attack'--( MMA ) Gloves	8942.99	01	8943.0



Products - Excel

File Home Insert Page Layout Formulas Data Review View Developer Help Tell me what you want to do

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Alignment: Wrap Text, Merge & Center

Number: General, Currency, Percentage, Date, Time, Text, Fraction, Scientific

Styles: Conditional Formatting, Format as Table, Cell Styles

Cells: Insert, Delete, Format

Editing: AutoSum, Fill, Clear, Sort & Filter, Find & Select

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
85	Logitech	10568	33	E-Gaming																			
86																							
87	Marvel's	11380	45	E-Gaming																			
88																							
89	Battlefield	9755	20	E-Gaming																			
90																							
91	SONY	81295	55	E-Gaming																			
92																							
93	SteelSerie	25690	47	E-Gaming																			
94																							
95	Assassin's	7480	58	E-Gaming																			
96																							
97	Microsoft	95927	44	E-Gaming																			
98																							
99	Mortal Ko	3739	52	E-Gaming																			
100																							
101	Charger	4550	30	E-Gaming																			
102																							
103	Red Dead	5920	46	E-Gaming																			
104																							
105	Minecraft	4640	60	E-Gaming																			
106																							
107	American	4880	25	E-Gaming																			
108																							
109	Razer	24388	48	E-Gaming																			
110																							
111	Cyberpun	8130	47	E-Gaming																			
112																							
113																							

Products

Ready

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Products - Excel

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67	Venum 'At	8942	50	Sports and Outdoor																			
68																							
69	Men's Nike	9755	60	Sports and Outdoor																			
70																							
71	Adidas	2600	85	Sports and Outdoor																			
72																							
73	Adidas Ori	6500	45	Sports and Outdoor																			
74																							
75	Adidas	9917	75	Sports and Outdoor																			
76																							
77	Adidas TIE	6500	76	Sports and Outdoor																			
78																							
79	Adidas	3250	38	Sports and Outdoor																			
80																							
81	Adidas	4877	55	Sports and Outdoor																			
82																							
83	NBA 2K21	2113	40	E-Gaming																			
84																							
85	Logitech	10568	33	E-Gaming																			
86																							
87	Marvel's	11380	45	E-Gaming																			
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89	Battlefield	9755	20	E-Gaming																			
90																							
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92																							
93	SteelSerie	25690	47	E-Gaming																			
94																							
95	Assassin's	7480	58	E-Gaming																			

Products

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
31	STOTT PIL	5690	70	Health and Fitness																			
32																							
33	Bowflex Se	64873	50	Health and Fitness																			
34																							
35	Whatafit	4065	60	Health and Fitness																			
36																							
37	BlenderB	1382	100	Health and Fitness																			
38																							
39	Marcy	19510	80	Health and Fitness																			
40																							
41	G Fuel	5853	200	Health and Fitness																			
42																							
43	C4 Sport	6500	100	Health and Fitness																			
44																							
45	Ab Roller	2764	40	Health and Fitness																			
46																							
47	DEGOL	2276	70	Health and Fitness																			
48																							
49	Balancefr	19510	50	Health and Fitness																			
50																							
51	Echelon Fi	6292	65	Health and Fitness																			
52																							
53	FIREOX	2400	60	Sports and Outdoor																			
54																							
55	Gunn and	18697	50	Sports and Outdoor																			
56																							
57	Gunn &	4855	40	Sports and Outdoor																			
58																							
59	SS Kashmir	10405	60	Sports and Outdoor																			

Products

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Products - Excel

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Name	Price	Quantity	Category																			
2																							
3	TRI ANGEL	1899	15	Electronic accessories																			
4																							
5	Logitech H	4200	15	Electronic accessories																			
6																							
7	Logitech G	25999	15	Electronic accessories																			
8																							
9	Logitech	1899	15	Electronic accessories																			
10																							
11	Lenovo	2205	15	Electronic accessories																			
12																							
13	64GB SE9	725	15	Electronic accessories																			
14																							
15	SAMSUN	25800	15	Electronic accessories																			
16																							
17	Fossil	10287	35	Watches and Eyewear																			
18																							
19	NAVIFOR	2899	25	Watches and Eyewear																			
20																							
21	Fitbit	23951	30	Watches and Eyewear																			
22																							
23	Emporio	30445	40	Watches and Eyewear																			
24																							
25	Bose	40039	45	Watches and Eyewear																			
26																							
27	Ray-Ban R	25888	38	Watches and Eyewear																			
28																							
29	Ray-Ban R	24111	47	Watches and Eyewear																			

Products

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data - Excel

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Styles: Conditional Formatting, Format as Table, Cell Styles

Cells: Insert, Delete, Format

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Name	email	password	customer_id
Taha	taha	Taha1	8.25E+10

data

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cart - Excel

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Taha	8.25E+10	Ray-BanRt	25888.9	2	51777.8
Taha	8.25E+10	Ray-BanRt	25888.9	2	51777.8
Taha	8.25E+10	Ray-BanRt	25888.9	2	51777.8
Taha	8.25E+10	Ray-BanRt	25888.9	2	51777.8
Taha	8.25E+10	Ray-BanRt	25888.9	2	51777.8
Taha	8.25E+10	Ray-BanRt	25888.9	2	51777.8
Taha	8.25E+10	Ray-BanRt	25888.9	2	51777.8

cart

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