**System Implementations**

**Recommended System Requirements**

Processors: Intel® Core™ i3 processor 4300M at 2.60 GHz.

Disk space: 4 to 8 GB.

Operating systems: Windows® 10, MACOS, and UBUNTU.

Python Versions: 3.X.X or Higher.

**Minimum System Requirements**

Processors: Intel Atom® processor or Intel® Core™ i3 processor.

Disk space: 1 GB.

Operating systems: Windows 7 or later, MACOS, and UBUNTU.

Python Versions: 2.7.X, 3.9.X.

**ACKNOWLEDGEMENT**TTT

First and foremost, praises and thanks to the God, the Almighty, for His showers of blessings throughout my research work to complete the research successfully.

We would like to express my deep and sincere gratitude to my subject teacher, **Mr. Amit Udiwal**, for giving me the opportunity to do research and providing invaluable guidance throughout this research. His dynamism, vision, sincerity and motivation have deeply inspired me. He has taught me the methodology to carry out the research and to present the research works as clearly as and honour to work and study under his guidance. We are very much thankful to our **Sr. Jasmin** for giving valuable time and moral support to develop this software. We would like to take opportunity to extend my sincere thanks and gratitude to our parents for being a source of inspiration and providing time and freedom to develop this software project. We also feel indebted to my friends for the valuable suggestions during the project work.

Animesh Tomar

[Roll No.

Class XII

**CERTIFICATE**

This is to certify that the project on ‘Supermarket Management System’ is a work done by Animesh Tomar fulfilment of CBSE’S AISSCE EXAMINATION 2022 and has been carried out under my direct supervision and guidance. This report or a similar report on the topic has not been submitted for any other examination and does not form any other examination and does not form any other course undergone by the candidate.

Name:

Animesh Tomar [Roll No.

………………….

Signature of Teacher / Guide

Name:Mr. Amit Udiwal

Designation:

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**REFERENCE**

The order to work on this project on ‘Supermarket Management System’ the following books & literature are referred by me during the various phrases of department of the project.

• http://www.python.org/.

• http://www.itsourcecode.org/.

• http://www.wikipedia.org/.

• Informatics Practices for Class XII

- By Sumita Arora

• Together with informatics practices.

Other than the above mentioned books, the suggestions and supervision of my teacher and my class experience also helped me to develop this software project.

**Introduction**

Supermarket Management System is created using Python to easily manage all supermarket related functions by a single user. As a terminal application, the users are able to perform basic operations of their supermarket such as additional items, view items, clear items/stocks, purchase items, search for specific products in the stocks and edit any items/products placed in the system record. Supermarket Management System also facilitates users to add new products in their stocks as a sale. This function includes adding items with their name, quantity(along with validation), and price of the item. Users can also see all the items stores in the system. The program shows the number of items along with their name, quantity, and price.

**Objective and**

**Scope of The Project**

The **Supermarket Billing System** with Source Code is a Python program where you can calculate and generate a billing receipt. The purpose of the system is to automate the calculation and efficiently generate the purchase bill digitally. The project was built with the use of tkinter module where it is compose of different widget that basically use for designing the interface. The project can be openly-access without the use of any kind of login information. The user can do the inputting of quantity of the ordered items, he/she also need to enter the name of the customer and phone number. After the order is done the user will click the Total button in order to display the total ordered item and click the Generate Bill to display the receipt of the purchased item. This project is useful to those have a grocery business it could help a lot when it comes for automating the calculation of transaction. The **Supermarket Billing System** is a simple project that contains the basic functionality of python in order for you to learn the flow of the system

**Supermarket Management System**

from tkinter import \*

import random

class Bill\_App:

def \_\_init\_\_(self,root):

self.root = root

self.root.geometry("1300x700+0+0")

self.root.maxsize(width = 1280,height = 700)

self.root.minsize(width = 1280,height = 700)

self.root.title("Supermarket Billing System")

#====================Variables========================#

self.cus\_name = StringVar()

self.c\_phone = StringVar()

#For Generating Random Bill Numbers

x = random.randint(1000,9999)

self.c\_bill\_no = StringVar()

#Seting Value to variable

self.c\_bill\_no.set(str(x))

self.bread = IntVar()

self.candy = IntVar()

self.hamburger = IntVar()

self.hotdog = IntVar()

self.sandwich = IntVar()

self.rice = IntVar()

self.salt = IntVar()

self.food\_oil = IntVar()

self.wheat = IntVar()

self.sugar = IntVar()

self.gatorade = IntVar()

self.coke = IntVar()

self.juice = IntVar()

self.waffer = IntVar()

self.biscuits = IntVar()

self.total\_food = StringVar()

self.total\_Supermarket = StringVar()

self.total\_other = StringVar()

self.tax\_cos = StringVar()

self.tax\_groc = StringVar()

self.tax\_other = StringVar()

#===================================

bg\_color = "green"

fg\_color = "white"

lbl\_color = 'white'

#Title of App

title = Label(self.root,text = "Supermarket Billing System",bd = 12,relief = GROOVE,fg = fg\_color,bg = bg\_color,font=("times new roman",30,"bold"),pady = 3).pack(fill = X)

#==========Customers Frame==========#

F1 = LabelFrame(text = "Customer Details",font = ("time new roman",12,"bold"),fg = "gold",bg = bg\_color,relief = GROOVE,bd = 10)

F1.place(x = 0,y = 80,relwidth = 1)

#===============Customer Name===========#

cname\_lbl = Label(F1,text="Customer Name",bg = bg\_color,fg = fg\_color,font=("times new roman",15,"bold")).grid(row = 0,column = 0,padx = 10,pady = 5)

cname\_en = Entry(F1,bd = 8,relief = GROOVE,textvariable = self.cus\_name)

cname\_en.grid(row = 0,column = 1,ipady = 4,ipadx = 30,pady = 5)

#=================Customer Phone==============#

cphon\_lbl = Label(F1,text = "Phone No",bg = bg\_color,fg = fg\_color,font = ("times new roman",15,"bold")).grid(row = 0,column = 2,padx = 20)

cphon\_en = Entry(F1,bd = 8,relief = GROOVE,textvariable = self.c\_phone)

cphon\_en.grid(row = 0,column = 3,ipady = 4,ipadx = 30,pady = 5)

#====================Customer Bill No==================#

cbill\_lbl = Label(F1,text = "Bill No.",bg = bg\_color,fg = fg\_color,font = ("times new roman",15,"bold"))

cbill\_lbl.grid(row = 0,column = 4,padx = 20)

cbill\_en = Entry(F1,bd = 8,relief = GROOVE,textvariable = self.c\_bill\_no)

cbill\_en.grid(row = 0,column = 5,ipadx = 30,ipady = 4,pady = 5)

#==================Food Frame=====================#

F2 = LabelFrame(self.root,text = 'Food',bd = 10,relief = GROOVE,bg = bg\_color,fg = "gold",font = ("times new roman",13,"bold"))

F2.place(x = 5,y = 180,width = 325,height = 380)

#===========Frame Content

bath\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Bread")

bath\_lbl.grid(row = 0,column = 0,padx = 10,pady = 20)

bath\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.bread)

bath\_en.grid(row = 0,column = 1,ipady = 5,ipadx = 5)

#=======Candy

face\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Candy")

face\_lbl.grid(row = 1,column = 0,padx = 10,pady = 20)

face\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.candy)

face\_en.grid(row = 1,column = 1,ipady = 5,ipadx = 5)

#========Hamburger

wash\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Hamburger")

wash\_lbl.grid(row = 2,column = 0,padx = 10,pady = 20)

wash\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.hamburger)

wash\_en.grid(row = 2,column = 1,ipady = 5,ipadx = 5)

#========Hotdog

hair\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Hotdog")

hair\_lbl.grid(row = 3,column = 0,padx = 10,pady = 20)

hair\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.hotdog)

hair\_en.grid(row = 3,column = 1,ipady = 5,ipadx = 5)

#============Sandwich

lot\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Sandwich")

lot\_lbl.grid(row = 4,column = 0,padx = 10,pady = 20)

lot\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.sandwich)

lot\_en.grid(row = 4,column = 1,ipady = 5,ipadx = 5)

#==================Supermarket Frame=====================#

F2 = LabelFrame(self.root,text = 'Supermarket',bd = 10,relief = GROOVE,bg = bg\_color,fg = "gold",font = ("times new roman",13,"bold"))

F2.place(x = 330,y = 180,width = 325,height = 380)

#===========Frame Content

rice\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Rice")

rice\_lbl.grid(row = 0,column = 0,padx = 10,pady = 20)

rice\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.rice)

rice\_en.grid(row = 0,column = 1,ipady = 5,ipadx = 5)

#=======

oil\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Food Oil")

oil\_lbl.grid(row = 1,column = 0,padx = 10,pady = 20)

oil\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.food\_oil)

oil\_en.grid(row = 1,column = 1,ipady = 5,ipadx = 5)

#=======

daal\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Salt")

daal\_lbl.grid(row = 2,column = 0,padx = 10,pady = 20)

daal\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.salt)

daal\_en.grid(row = 2,column = 1,ipady = 5,ipadx = 5)

#========

wheat\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Wheat")

wheat\_lbl.grid(row = 3,column = 0,padx = 10,pady = 20)

wheat\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.wheat)

wheat\_en.grid(row = 3,column = 1,ipady = 5,ipadx = 5)

#============

sugar\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Sugar")

sugar\_lbl.grid(row = 4,column = 0,padx = 10,pady = 20)

sugar\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.sugar)

sugar\_en.grid(row = 4,column = 1,ipady = 5,ipadx = 5)

#==================Other Stuff=====================#

F2 = LabelFrame(self.root,text = 'Others',bd = 10,relief = GROOVE,bg = bg\_color,fg = "gold",font = ("times new roman",13,"bold"))

F2.place(x = 655,y = 180,width = 325,height = 380)

#===========Frame Content

maza\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Gatorade")

maza\_lbl.grid(row = 0,column = 0,padx = 10,pady = 20)

maza\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.gatorade)

maza\_en.grid(row = 0,column = 1,ipady = 5,ipadx = 5)

#=======

cock\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Coke")

cock\_lbl.grid(row = 1,column = 0,padx = 10,pady = 20)

cock\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.coke)

cock\_en.grid(row = 1,column = 1,ipady = 5,ipadx = 5)

#=======

frooti\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Juice")

frooti\_lbl.grid(row = 2,column = 0,padx = 10,pady = 20)

frooti\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.juice)

frooti\_en.grid(row = 2,column = 1,ipady = 5,ipadx = 5)

#========

cold\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Waffer")

cold\_lbl.grid(row = 3,column = 0,padx = 10,pady = 20)

cold\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.waffer)

cold\_en.grid(row = 3,column = 1,ipady = 5,ipadx = 5)

#============

bis\_lbl = Label(F2,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Biscuits")

bis\_lbl.grid(row = 4,column = 0,padx = 10,pady = 20)

bis\_en = Entry(F2,bd = 8,relief = GROOVE,textvariable = self.biscuits)

bis\_en.grid(row = 4,column = 1,ipady = 5,ipadx = 5)

#===================Bill Aera================#

F3 = Label(self.root,bd = 10,relief = GROOVE)

F3.place(x = 960,y = 180,width = 325,height = 380)

#===========

bill\_title = Label(F3,text = "Bill List",font = ("Lucida",13,"bold"),bd= 7,relief = GROOVE)

bill\_title.pack(fill = X)

#============

scroll\_y = Scrollbar(F3,orient = VERTICAL)

self.txt = Text(F3,yscrollcommand = scroll\_y.set)

scroll\_y.pack(side = RIGHT,fill = Y)

scroll\_y.config(command = self.txt.yview)

self.txt.pack(fill = BOTH,expand = 1)

#===========Buttons Frame=============#

F4 = LabelFrame(self.root,text = 'Bill Menu',bd = 10,relief = GROOVE,bg = bg\_color,fg = "gold",font = ("times new roman",13,"bold"))

F4.place(x = 0,y = 560,relwidth = 1,height = 145)

#===================

cosm\_lbl = Label(F4,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Total Food")

cosm\_lbl.grid(row = 0,column = 0,padx = 10,pady = 0)

cosm\_en = Entry(F4,bd = 8,relief = GROOVE,textvariable = self.total\_food)

cosm\_en.grid(row = 0,column = 1,ipady = 2,ipadx = 5)

#===================

gro\_lbl = Label(F4,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Total Supermarket")

gro\_lbl.grid(row = 1,column = 0,padx = 10,pady = 5)

gro\_en = Entry(F4,bd = 8,relief = GROOVE,textvariable = self.total\_Supermarket)

gro\_en.grid(row = 1,column = 1,ipady = 2,ipadx = 5)

#================

oth\_lbl = Label(F4,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Others Total")

oth\_lbl.grid(row = 2,column = 0,padx = 10,pady = 5)

oth\_en = Entry(F4,bd = 8,relief = GROOVE,textvariable = self.total\_other)

oth\_en.grid(row = 2,column = 1,ipady = 2,ipadx = 5)

#================

cosmt\_lbl = Label(F4,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Food Tax")

cosmt\_lbl.grid(row = 0,column = 2,padx = 30,pady = 0)

cosmt\_en = Entry(F4,bd = 8,relief = GROOVE,textvariable = self.tax\_cos)

cosmt\_en.grid(row = 0,column = 3,ipady = 2,ipadx = 5)

#=================

grot\_lbl = Label(F4,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Supermarket Tax")

grot\_lbl.grid(row = 1,column = 2,padx = 30,pady = 5)

grot\_en = Entry(F4,bd = 8,relief = GROOVE,textvariable = self.tax\_groc)

grot\_en.grid(row = 1,column = 3,ipady = 2,ipadx = 5)

#==================

otht\_lbl = Label(F4,font = ("times new roman",15,"bold"),fg = lbl\_color,bg = bg\_color,text = "Others Tax")

otht\_lbl.grid(row = 2,column = 2,padx = 10,pady = 5)

otht\_en = Entry(F4,bd = 8,relief = GROOVE,textvariable = self.tax\_other)

otht\_en.grid(row = 2,column = 3,ipady = 2,ipadx = 5)

#====================

total\_btn = Button(F4,text = "Total",bg = bg\_color,fg = fg\_color,font=("lucida",12,"bold"),bd = 7,relief = GROOVE,command = self.total)

total\_btn.grid(row = 1,column = 4,ipadx = 20,padx = 30)

#========================

genbill\_btn = Button(F4,text = "Generate Bill",bg = bg\_color,fg = fg\_color,font=("lucida",12,"bold"),bd = 7,relief = GROOVE,command = self.bill\_area)

genbill\_btn.grid(row = 1,column = 5,ipadx = 20)

#====================

clear\_btn = Button(F4,text = "Clear",bg = bg\_color,fg = fg\_color,font=("lucida",12,"bold"),bd = 7,relief = GROOVE,command = self.clear)

clear\_btn.grid(row = 1,column = 6,ipadx = 20,padx = 30)

#======================

exit\_btn = Button(F4,text = "Exit",bg = bg\_color,fg = fg\_color,font=("lucida",12,"bold"),bd = 7,relief = GROOVE,command = self.exit)

exit\_btn.grid(row = 1,column = 7,ipadx = 20)

#Function to get total prices

def total(self):

#=================Total Food Prices

self.total\_food\_prices = (

(self.bread.get() \* 1)+

(self.candy.get() \* 3)+

(self.hamburger.get() \* 8)+

(self.hotdog.get() \* 6)+

(self.sandwich.get() \* 4)

)

self.total\_food.set("$"+str(self.total\_food\_prices))

self.tax\_cos.set("$"+str(round(self.total\_food\_prices\*0.05)))

#====================Total Supermarket Prices

self.total\_Supermarket\_prices = (

(self.wheat.get()\*1)+

(self.food\_oil.get() \* 5)+

(self.salt.get() \* 1)+

(self.rice.get() \*3)+

(self.sugar.get() \* 2)

)

self.total\_Supermarket.set("$"+str(self.total\_Supermarket\_prices))

self.tax\_groc.set("$"+str(round(self.total\_Supermarket\_prices\*0.05)))

#======================Total Other Prices

self.total\_other\_prices = (

(self.gatorade.get() \* 4)+

(self.juice.get() \* 2)+

(self.coke.get() \* 2)+

(self.waffer.get() \* 2)+

(self.biscuits.get() \* 2)

)

self.total\_other.set("$"+str(self.total\_other\_prices))

self.tax\_other.set("$"+str(round(self.total\_other\_prices\*0.05)))

#Function For Text Area

def welcome\_soft(self):

self.txt.delete('1.0',END)

self.txt.insert(END," Welcome To Store's Retail\n")

self.txt.insert(END,f"\nBill No. : {str(self.c\_bill\_no.get())}")

self.txt.insert(END,f"\nCustomer Name : {str(self.cus\_name.get())}")

self.txt.insert(END,f"\nPhone No. : {str(self.c\_phone.get())}")

self.txt.insert(END,"\n===================================")

self.txt.insert(END,"\nProduct Qty Price")

self.txt.insert(END,"\n===================================")

#Function to clear the bill area

def clear(self):

self.txt.delete('1.0',END)

#Add Product name , qty and price to bill area

def bill\_area(self):

self.welcome\_soft()

if self.bread.get() != 0:

self.txt.insert(END,f"\nBread {self.bread.get()} {self.bread.get() \* 1}")

if self.candy.get() != 0:

self.txt.insert(END,f"\nCandy {self.candy.get()} {self.candy.get() \* 3}")

if self.hamburger.get() != 0:

self.txt.insert(END,f"\nHamburger {self.hamburger.get()} {self.hamburger.get() \* 8}")

if self.hotdog.get() != 0:

self.txt.insert(END,f"\nHotdog {self.hotdog.get()} {self.hotdog.get() \* 6}")

if self.sandwich.get() != 0 :

self.txt.insert(END,f"\nSandwich {self.sandwich.get()} {self.sandwich.get() \* 4}")

if self.wheat.get() != 0:

self.txt.insert(END,f"\nWheat {self.wheat.get()} {self.wheat.get() \* 1}")

if self.food\_oil.get() != 0:

self.txt.insert(END,f"\nFood Oil {self.food\_oil.get()} {self.food\_oil.get() \* 5}")

if self.salt.get() != 0:

self.txt.insert(END,f"\nSalt {self.salt.get()} {self.salt.get() \* 1}")

if self.rice.get() != 0:

self.txt.insert(END,f"\nRice {self.rice.get()} {self.rice.get() \* 3}")

if self.sugar.get() != 0:

self.txt.insert(END,f"\nSugar {self.sugar.get()} {self.sugar.get() \* 2}")

if self.gatorade.get() != 0:

self.txt.insert(END,f"\nGatorade {self.gatorade.get()} {self.gatorade.get() \* 4}")

if self.juice.get() != 0:

self.txt.insert(END,f"\nJuice {self.juice.get()} {self.juice.get() \* 2}")

if self.coke.get() != 0:

self.txt.insert(END,f"\nCoke {self.coke.get()} {self.coke.get() \* 2}")

if self.waffer.get() != 0:

self.txt.insert(END,f"\nWaffer {self.waffer.get()} {self.waffer.get() \* 2}")

if self.biscuits.get() != 0:

self.txt.insert(END,f"\nBiscuits {self.biscuits.get()} {self.biscuits.get() \* 2}")

self.txt.insert(END,"\n===================================")

self.txt.insert(END,f"\n Total : ${self.total\_food\_prices+self.total\_Supermarket\_prices+self.total\_other\_prices+self.total\_food\_prices \* 0.05+self.total\_Supermarket\_prices \* 0.05+self.total\_other\_prices \* 0.05}")

def exit(self):

self.root.destroy()

root = Tk()

object = Bill\_App(root)

root.mainloop()