**COMPUTER SCIENCE PRACTICAL FILE**

*PROJECT:* Music Store

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*CLASS:* 12-I

**DELHI PRIVATE SCHOOL**

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DEPARTMENT OF COMPUTER SCIENCE

**CERTIFICATE**

Certified that the work in this file is the bonafide work of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of class XII \_\_\_\_\_ Roll Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_ recorded in the school labs during the academic year 2019 – 2020.

Date :\_\_\_\_\_\_\_\_\_\_\_\_\_

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**SYSTEM REQUIREMENTS**

**Hardware Requirements:**

* Processor: Intel Pentium
* RAM: 512 MB or greater
* Atleast 1 GB Hard Disk space
* Compatible PC

**Software Requirements:**

* Operating System: Windows XP or later, Linux, Mac Osx
* Python 3.5 or above
* MySQL and mysql-connector

**Nonfunctional Requirements:**

* Reliability
* Security
* Portability
* Versatility
* Reusability
* Extensibility

**ABOUT THE PROJECT**

This is a record store interface which uses python in the front-end and mySQL in the back-end to simulate a record store website.

Users can browse records through a variety of parameters:

* Bestselling
* Genre
* Artist
* Era

Users can then choose to add any quantity of one/more records to their cart.

After they are done shopping, they can exit with or without checking out.

**SOURCE CODE**

**record\_store.py**

**def** clearscreen():

**import** os

os.system('cls' **if** os.name == 'nt' **else** 'clear')

**def** tableprint(lst):

widths = []

columns = []

border = '|'

separator = '+'

length= ['' **for** i **in** range(len(lst[0]))]

**for** i **in** range(len(lst[0])):

length[i] = max(list(map(**lambda** x: len(str(x[i])), lst)))

i=0

**for** cd **in** cur.description:

widths.append(max(length[i], len(cd[0])))

columns.append(cd[0])

i+=1

**for** w **in** widths:

border += " %-"+"%ss |" % (w,)

separator += '-'\*w + '--+'

**print**(separator)

**print**(border % tuple(columns))

**print**(separator)

**for** row **in** lst:

**print**(border % row)

**print**(separator)

**def** addtocart():

choice=input("\nDo you want to add a record to your cart? (y/n): ")

**if** choice=='y':

n=int(input("\nEnter number of records: "))

**for** i **in** range(n):

id=(input("\nEnter the Record\_ID of the record: ")).upper()

cur.execute("select Name,Artist,Format from records where Record\_ID='"+id+"'")

data=cur.fetchall()

**if** data==[]:

**print**("\nRecord\_ID not found.\n")

**continue**

quan=int(input("Enter quantity of the record: "))

cur.execute("insert into cart values('{}','{}','{}','{}',{})".format(id,data[0][0],data[0][1],data[0][2],quan))

conobj.commit()

**print**("\n",quan,"units of",data[0][0],"successfully added to cart !")

**print**("\n1. Continue shopping")

**print**("2. View Cart / checkout")

choice=int(input("\nEnter choice: "))

**if** choice==2:

viewcart()

**print**()

**def** viewcart():

clearscreen()

**print**("-"\*50+"\n\t\t\tCART\n"+"-"\*50+"\n")

cur.execute("select \* from cart")

cart=cur.fetchall()

**if** cart==[]:

**print**("\nNo items in cart\n")

input("Press enter to go back to main menu ")

**return**

tableprint(cart)

cur.execute("select sum(quantity) from cart where Format='STUDIO ALBUM'")

albums=cur.fetchall()[0][0]

cur.execute("select sum(quantity) from cart where Format='EP'")

eps=cur.fetchall()[0][0]

cur.execute("select sum(quantity) from cart where Format='SINGLE'")

singles=cur.fetchall()[0][0]

**if** singles==None:

singles=0

**if** eps==None:

eps=0

**if** albums==None:

albums=0

price=albums\*1500+eps\*1000+singles\*500

**print**("\nPrice per Studio Album : 1500 Rs\t(",albums,"albums in cart )")

**print**("Price per EP : 1000 Rs\t\t\t(",eps,"EPs in cart )")

**print**("Price per Single : 500 Rs\t\t(",singles,"Singles in cart )\n")

**print**("Total Price =",price,"Rupees")

**print**("Price with tax (5%) =",price\*105/100,"Rupees")

**print**("\n1. Remove items")

**print**("2. Checkout and exit")

**print**("3. Continue shopping")

choice=int(input("\nEnter choice: "))

**if** choice==1:

record=input("\nEnter Record\_ID of the record you want to remove: ")

cur.execute("delete from cart where Record\_ID='"+record+"'")

**print**("\nItem Removed!")

viewcart()

**elif** choice==2:

**print**("\nPurchase Successful!")

**print**("Thanks for shopping at Genius Records Store. We hope to see you again soon!\n")

input("Press enter to exit ")

**global** flag

flag=False

**import** mysql.connector

**import** records

conobj=mysql.connector.connect(host="localhost",user="root",passwd="")

cur=conobj.cursor()

**try**:

cur.execute("create database music")

**except**:

**print**()

cur.execute("use music")

**try**:

cur.execute("drop table records")

**except**:

**print**()

cur.execute("create table records(Record\_ID varchar(5) primary key, Name varchar(40), Artist varchar(20), Genre varchar(15), Format varchar(20), Units\_Sold integer, Year integer)")

**for** record **in** records.load():

cur.execute("insert into records values"+str(record))

conobj.commit()

**try**:

cur.execute("drop table cart")

**except**:

**print**()

cur.execute("create table cart(Record\_ID varchar(5) references records(Record\_ID), Name varchar(40), Artist varchar(20), Format varchar(20), Quantity integer)")

conobj.commit()

cur.execute("use music")

flag=True

**while** flag:

clearscreen()

**print**("-"\*50+"\n\t\tGENIUS RECORD STORE\t\t\n"+"-"\*50)

**print**("1. Browse bestselling records")

**print**("2. Browse by genre")

**print**("3. Browse by artist name")

**print**("4. Browse by era")

**print**("5. View cart / checkout")

**print**("6. Exit")

choice = int(input("\nEnter your choice: "))

**if** choice==1:

clearscreen()

**print**("-"\*50+"\n\t\tBESTSELLING RECORDS\t\t\n"+"-"\*50)

cur.execute("set @rank:=0")

cur.execute("select (@rank:=@rank+1) as Rank, Record\_ID, Name, Artist, format(Units\_Sold,0) as Copies\_Sold, Genre, Format, Year from records order by Units\_Sold desc limit 25")

table=cur.fetchall()

tableprint(table)

addtocart()

**elif** choice==2:

clearscreen()

**print**("-"\*50+"\n\t\tSELECT GENRE\t\t\n"+"-"\*50)

cur.execute("select distinct GENRE from records")

genres=cur.fetchall()

**print**()

**for** i **in** range(len(genres)):

**print**(str(i+1)+".",genres[i][0])

choice = int(input("\nEnter your choice: "))

**try**:

cur.execute("select \* from records where Genre='"+genres[choice-1][0].upper()+"' limit 25")

table=cur.fetchall()

tableprint(table)

**except**:

**print**("\nInvalid choice!\n")

**continue**

addtocart()

**elif** choice==3:

clearscreen()

**print**("-"\*50+"\n\t\tSELECT ARTIST\t\t\n"+"-"\*50)

cur.execute("select distinct ARTIST from records")

artists=cur.fetchall()

**print**()

**for** i **in** range(len(artists)):

**print**(str(i+1)+".",artists[i][0])

choice = int(input("\nEnter your choice: "))

**try**:

cur.execute("select \* from records where Artist='"+artists[choice-1][0].upper()+"' limit 25")

table=cur.fetchall()

tableprint(table)

**except**:

**print**("\nInvalid choice!\n")

**continue**

addtocart()

**elif** choice==4:

clearscreen()

**print**("-"\*50+"\n\t\tSELECT ERA\t\t\n"+"-"\*50)

**print**("\n1. 1960s")

**print**("2. 1970s")

**print**("3. 1980s")

**print**("4. 1990s")

**print**("5. 2000s")

**print**("6. 2010s")

choice = int(input("\nEnter your choice: "))

**if** choice==1:

cur.execute("select \* from records where Year between 1960 and 1969 limit 25")

**elif** choice==2:

cur.execute("select \* from records where Year between 1970 and 1979 limit 25")

**elif** choice==3:

cur.execute("select \* from records where Year between 1980 and 1989 limit 25")

**elif** choice==4:

cur.execute("select \* from records where Year between 1990 and 1999 limit 25")

**elif** choice==5:

cur.execute("select \* from records where Year between 2000 and 2009 limit 25")

**elif** choice==6:

cur.execute("select \* from records where Year between 2010 and 2020 limit 25")

**else**:

**print**("\nInvalid choice!\n")

**continue**

table=cur.fetchall()

tableprint(table)

addtocart()

**elif** choice==5:

viewcart()

**elif** choice==6:

**print**("\nThanks for visiting !\n")

**break**

**else**:

**print**("\nInvalid choice!\n")

**records.py**

**def** load():

**return** (('SA001','THE DARK SIDE OF THE MOON','PINK FLOYD','ROCK','STUDIO ALBUM',13000000,1973),

('SA002','WISH YOU WERE HERE','PINK FLOYD','ROCK','STUDIO ALBUM',5000000,1975),

('SA003','THE WALL','PINK FLOYD','ROCK','STUDIO ALBUM',1900000,1979),

('SL001','ONE OF MY TURNS','PINK FLOYD','ROCK','SINGLE',60000,1979),

('EP001','THE FINAL CUT','PINK FLOYD','ROCK','EP',300000,1983),

('SA004','RUBBER SOUL','THE BEATLES','ROCK','STUDIO ALBUM',1200000,1965),

('SA005','REVOLVER','THE BEATLES','ROCK','STUDIO ALBUM',600000,1966),

('SA006','ABBEY ROAD','THE BEATLES','ROCK','STUDIO ALBUM',5600000,1969),

('EP002','YESTERDAY','THE BEATLES','ROCK','EP',100000,1966),

('EP003','LONG TALL SALLY','THE BEATLES','ROCK','EP',110000,1964),

('SA007','NEVERMIND','NIRVANA','ROCK','STUDIO ALBUM',10000000,1991),

('SA008','BLEACH','NIRVANA','ROCK','STUDIO ALBUM',1900000,1989),

('SA009','IN UTERO','NIRVANA','ROCK','STUDIO ALBUM',1500000,1993),

('EP004','BLEW','NIRVANA','ROCK','EP',100000,1989),

('SL002','SMELLS LIKE TEEN SPIRIT','NIRVANA','ROCK','SINGLE',3000000,1989),

('SA010','A NIGHT AT THE OPERA','QUEEN','ROCK','STUDIO ALBUM',1000000,1975),

('SA011','SHEER HEART ATTACK','QUEEN','ROCK','STUDIO ALBUM',700000,1974),

('SA012','JAZZ','QUEEN','ROCK','STUDIO ALBUM',900000,1978),

('SA013','HOT SPACE','QUEEN','ROCK','STUDIO ALBUM',700000,1982),

('SL003','BOHEMIAN RHAPSODY','QUEEN','ROCK','SINGLE',1000000,1975),

('SA101','YEEZUS','KANYE WEST','HIP HOP','STUDIO ALBUM',750000,2013),

('SA102','THE COLLEGE DROPOUT','KANYE WEST','HIP HOP','STUDIO ALBUM',3358000,2003),

('SA103','MY BEAUTIFUL DARK TWISTED FANTASY','KANYE WEST','HIP HOP','STUDIO ALBUM',1350000,2010),

('EP101','YE','KANYE WEST','HIP HOP','EP',1500000,2018),

('SL101','STRONGER','KANYE WEST','HIP HOP','SINGLE',483000,2007),

('SA104','ASTROWORLD','TRAVIS SCOTT','HIP HOP','STUDIO ALBUM',2700000,2018),

('SA105','BIRDS IN THE TRAP SING MCKNIGHT','TRAVIS SCOTT','HIP HOP','STUDIO ALBUM',530000,2016),

('SA106','RODEO','TRAVIS SCOTT','HIP HOP','STUDIO ALBUM',1100000,2015),

('EP102','JACKBOYS','TRAVIS SCOTT','HIP HOP','EP',790000,2019),

('SL102','SICKO MODE','TRAVIS SCOTT','HIP HOP','SINGLE',2700000,2018),

('SA107','KAMIKAZE','EMINEM','HIP HOP','STUDIO ALBUM',252000,2018),

('SA108','THE MARSHALL MATHERS LP','EMINEM','HIP HOP','STUDIO ALBUM',10600000,2000),

('SA109','THE EMINEM SHOW','EMINEM','HIP HOP','STUDIO ALBUM',13500000,2002),

('EP103','SLIM SHADY EP','EMINEM','HIP HOP','EP',600000,1997),

('SL103','LOSE YOURSELF','EMINEM','HIP HOP','SINGLE',2000000,1973),

('SA110','DAMN.','KENDRICK LAMAR','HIP HOP','STUDIO ALBUM',3137000,2017),

('SA111','GOOD KID, M.A.A.D CITY','KENDRICK LAMAR','HIP HOP','STUDIO ALBUM',1002000,2012),

('SA112','TO PIMP A BUTTERFLY','KENDRICK LAMAR','HIP HOP','STUDIO ALBUM',1850000,2015),

('EP104','UNTITLED UNMASTERED','KENDRICK LAMAR','HIP HOP','EP',1500000,2016),

('SL104','HUMBLE','KENDRICK LAMAR','HIP HOP','SINGLE',1300000,2017),

('SA201','AFTER HOURS','THE WEEKND','R&B','STUDIO ALBUM',2400000,2020),

('SA202','STARBOY','THE WEEKND','R&B','STUDIO ALBUM',4480000,2016),

('SA203','BEAUTY BEHIND THE MADNESS','THE WEEKND','R&B','STUDIO ALBUM',3700000,2015),

('EP201','MY DEAR MELANCHOLY','THE WEEKND','R&B','EP',769000,2018),

('SL201','THE HILLS','THE WEEKND','R&B','SINGLE',1000000,2015),

('SA204','BLONDE','FRANK OCEAN','R&B','STUDIO ALBUM',4200000,2016),

('SA205','CHANNEL ORANGE','FRANK OCEAN','R&B','STUDIO ALBUM',621000,2012),

('SA206','NOSTALGIA, ULTRA','FRANK OCEAN','R&B','STUDIO ALBUM',325000,2011),

('SL202','IN MY ROOM','FRANK OCEAN','R&B','EP',600000,2019),

('SL203','CHANEL','FRANK OCEAN','R&B','SINGLE',621000,2017),

('SA207','AMERICAN TEEN','KHALID','R&B','STUDIO ALBUM',1220000,2017),

('SA208','FREE SPIRIT','KHALID','R&B','STUDIO ALBUM',202000,2019),

('SL204','YOUNG DUMB & BROKE','KHALID','R&B','SINGLE',200000,2017),

('EP202','SUNCITY','KHALID','R&B','EP',128000,2018),

('SL205','LOCATION','KHALID','R&B','SINGLE',1220000,2017),

('SA209','SCORPION','DRAKE','R&B','STUDIO ALBUM',3905000,2017),

('SA210','VIEWS','DRAKE','R&B','STUDIO ALBUM',1730000,2016),

('SA211','TAKE CARE','DRAKE','R&B','STUDIO ALBUM',2260000,2011),

('EP203','SO FAR GONE','DRAKE','R&B','EP',1350000,2009),

('SL206','ONE DANCE','DRAKE','R&B','SINGLE',3250000,2016),

('EP301','SEVEN','MARTIN GARRIX','ELECTRONIC','EP',100000,2016),

('EP302','BREAK THROUGH THE SILENCE','MARTIN GARRIX','ELECTRONIC','EP',230000,2015),

('EP303','BANGARANG','SKRILLEX','ELECTRONIC','EP',960000,2011),

('SA301','TRUE','AVICII','ELECTRONIC','STUDIO ALBUM',1200000,2013),

('SA302','SKRILLEX AND DIPLO PRESENT JACK U','JACK U','ELECTRONIC','STUDIO ALBUM',1400000,2015),

('SA303','RECESS','SKRILLEX','ELECTRONIC','STUDIO ALBUM',900000,2014),

('SA304','18 MONTHS','CALVIN HARRIS','ELECTRONIC','STUDIO ALBUM',940000,2012),

('SA305','ADVENTURE','MADEON','ELECTRONIC','STUDIO ALBUM',600000,2015),

('SL301','SCARED TO BE LONELY','MARTIN GARRIX','ELECTRONIC','SINGLE',800000,2017),

('SL302','NOW THAT IVE FOUND YOU','MARTIN GARRIX','ELECTRONIC','SINGLE',100000,2016),

('SA306','READY FOR THE WEEKEND','CALVIN HARRIS','ELECTRONIC','STUDIO ALBUM',900000,2009),

('SA307','STORIES','AVICII','ELECTRONIC','STUDIO ALBUM',2300000,2015),

('EP304','THE DAYS/NIGHTS EP','AVICII','ELECTRONIC','EP',1400000,2014),

('EP305','THE CITY','MADEON','ELECTRONIC','EP',250000,2012),

('EP306','GOLD SKIES','MARTIN GARRIX','ELECTRONIC','EP',500000,2014),

('SL303','IN THE NAME OF LOVE','MARTIN GARRIX','ELECTRONIC','SINGLE',400000,2016),

('SL304','BUN UP THE DANCE','SKRILLEX','ELECTRONIC','SINGLE',1200000,2015),

('SA308','FUNK WAV BOUNCES VOL.1','CALVIN HARRIS','ELECTRONIC','STUDIO ALBUM',6700000,2017),

('SL305','WAKE ME UP','AVICII','ELECTRONIC','SINGLE',1000000,2013),

('SL306','HEY BROTHER','AVICII','ELECTRONIC','SINGLE',950000,2013),

('SA401','THRILLER','MICHAEL JACKSON','POP','STUDIO ALBUM',23000000,1982),

('SA402','DANGEROUS','MICHAEL JACKSON','POP','STUDIO ALBUM',13400000,1991),

('SA403','XSCAPE','MICHAEL JACKSON','POP','STUDIO ALBUM',459000,2014),

('SA404','INVINCIBLE','MICHAEL JACKSON','POP','STUDIO ALBUM',2000000,2001),

('SA405','BELIEVE','JUSTIN BIEBER','POP','STUDIO ALBUM',3600000,2012),

('SL401','YUMMY','JUSTIN BIEBER','POP','SINGLE',400000,2020),

('SA406','CHANGES','JUSTIN BIEBER','POP','STUDIO ALBUM',231000,2020),

('SA407','PURPOSE','JUSTIN BIEBER','POP','STUDIO ALBUM',1010000,2015),

('SA408','DIVIDE','ED SHEERAN','POP','STUDIO ALBUM',1102000,2017),

('EP401','5','ED SHEERAN','POP','EP',100000,2015),

('SA409','NO.6 COLLABORATIONS PROJECT','ED SHEERAN','POP','STUDIO ALBUM',200000,2019),

('EP402','LOOSE CHANGE','ED SHEERAN','POP','EP',200000,2010),

('SA410','RED','TAYLOR SWIFT','POP','STUDIO ALBUM',1300000,2012),

('SA411','REPUTATION','TAYLOR SWIFT','POP','STUDIO ALBUM',1230000,2017),

('SA412','1989','TAYLOR SWIFT','POP','STUDIO ALBUM',3215000,2014),

('SA413','FOLKLORE','TAYLOR SWIFT','POP','STUDIO ALBUM',500000,2020),

('SA414','VOICENOTES','CHARLIE PUTH','POP','STUDIO ALBUM',500000,2018),

('SA415','NINE TRACK MIND','CHARLIE PUTH','POP','STUDIO ALBUM',300000,2016),

('EP403','SOME TYPE OF LOVE','CHARLIE PUTH','POP','EP',150000,2015),

('SA416','EGO','CHARLIE PUTH','POP','STUDIO ALBUM',250000,2013))

**OUTPUT**

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