**COMPUTER SCIENCE PRACTICAL FILE**

*PROJECT:* Music Store

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*CLASS:* 12-I

**DELHI PRIVATE SCHOOL**

**SHARJAH**



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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Teacher in charge External Examiner

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**ABOUT THE PROJECT**

This program simulates a record store interface which uses python in the front-end and MySQL in the back-end.

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():**

**#function that clears all previous output on screen**

**import os**

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

**def tableprint(lst):**

**#prints table in sql format**

**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():**

**#prompts to add item to cart**

**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 !")**

**#another prompt to either continue shopping or checkout**

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

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

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

**if choice==2:**

**viewcart()**

**print()**

**def viewcart():**

**#shows the cart and prompts for checkout**

**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**

**#importing modules and starting sql connection**

**import mysql.connector**

**import records**

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

**cur=conobj.cursor()**

**#creating database and records table if they dont exist**

**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)")**

**#adding records from records.py module**

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

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

**conobj.commit()**

**#creating cart table**

**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")**

**#looping through menu**

**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)**

**#creating rank variable and displaying records with rank**

**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()**

**#displaying select genre submenu**

**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()**

**#displaying select artist submenu**

**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()**

**#displaying select era submenu**

**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:**

**#displays exit message and breaks code**

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

**break**

**else:**

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

**records.py**

**'''contains all the records and loads them on function call'''**

**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),**

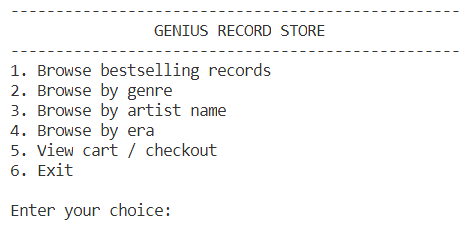
**('SA415','NINE TRACK MIND','CHARLIE PUTH','POP','STUDIO ALBUM',300000,2016),**

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

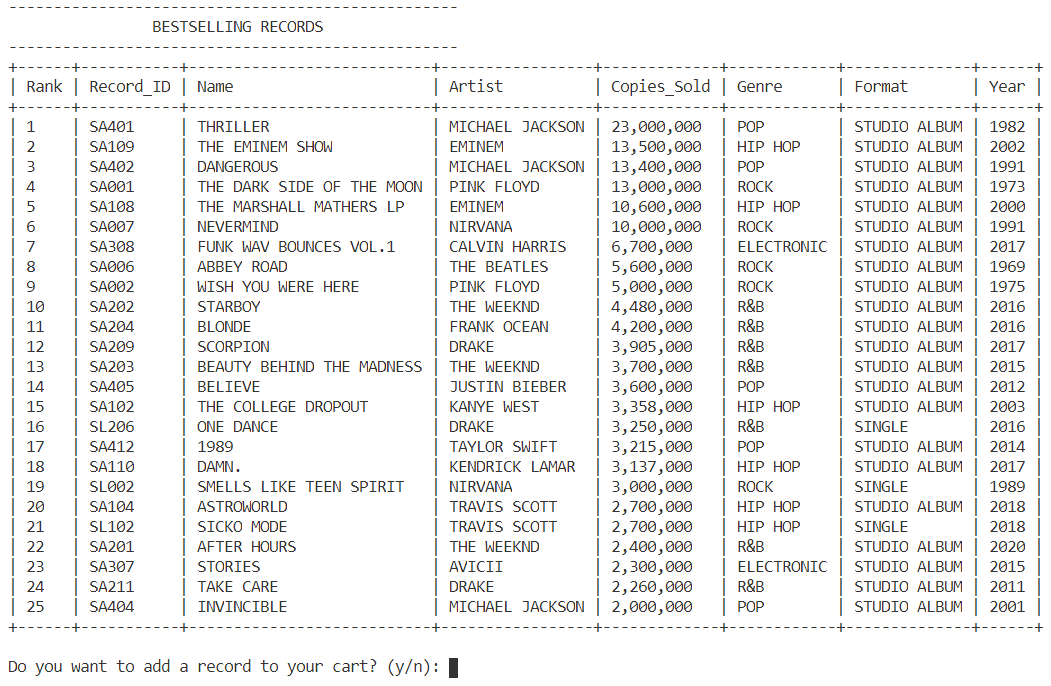
**('SA416','EGO','CHARLIE PUTH','POP','STUDIO ALBUM',250000,2013))**

**OUTPUT**

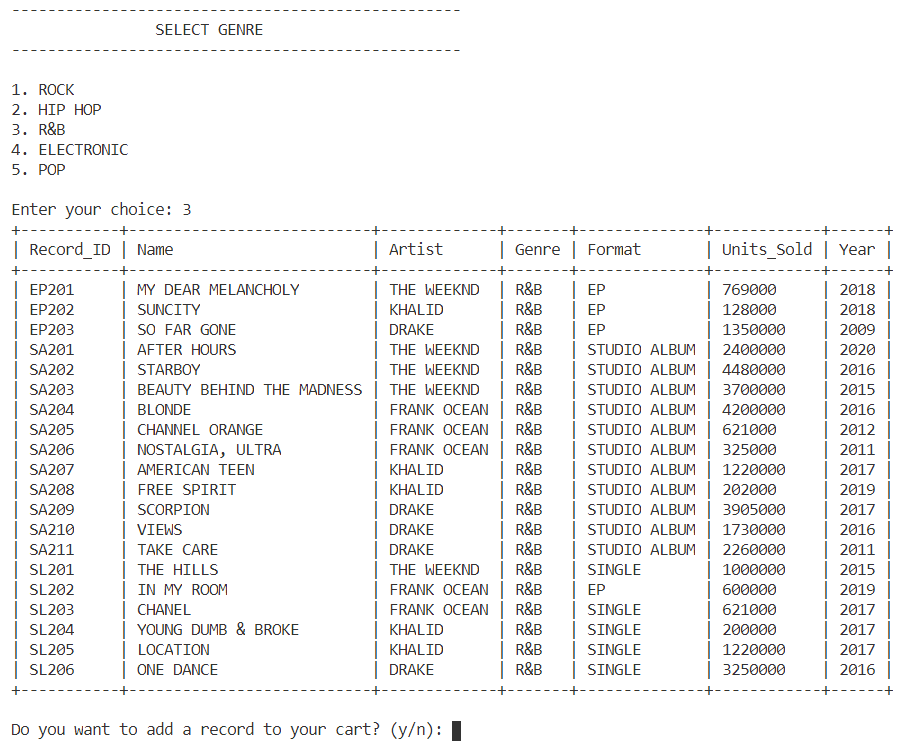
**Main Menu:**



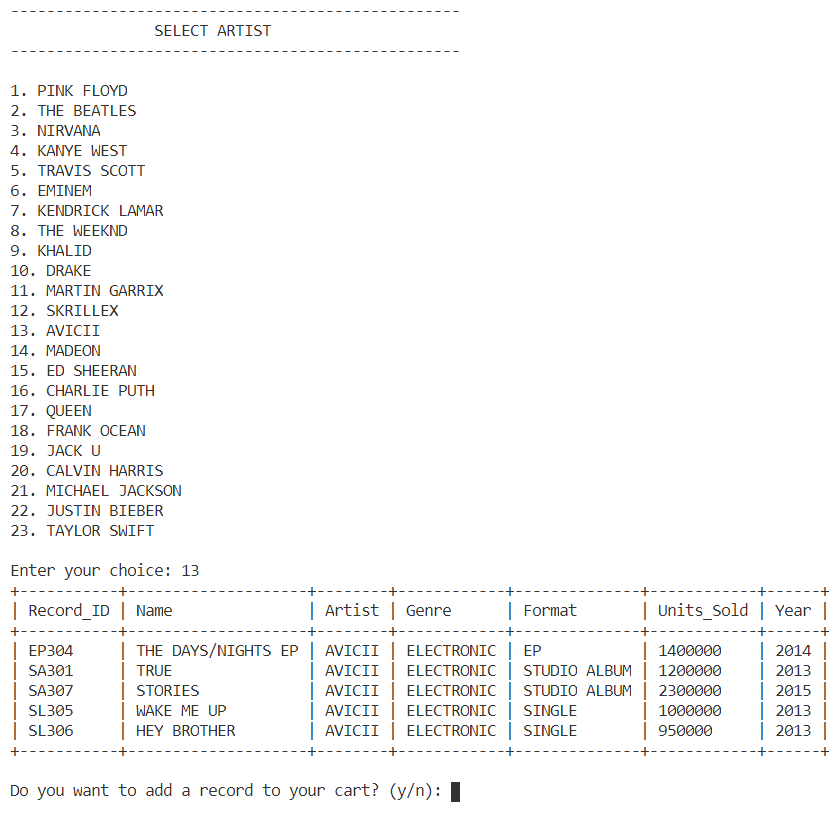
**Sub-Menu 1: Browsing by Bestselling Records**



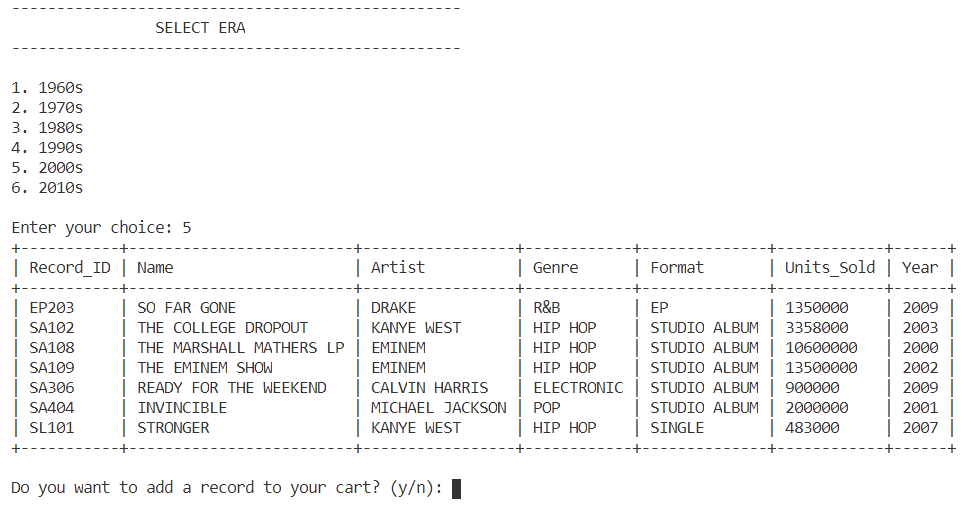
**Sub-Menu 2: Browsing by Genre**



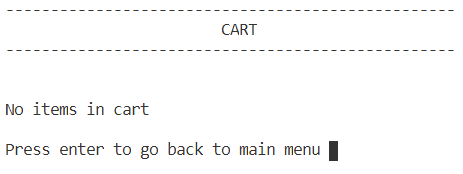
**Sub-Menu 3: Browsing by Artist**



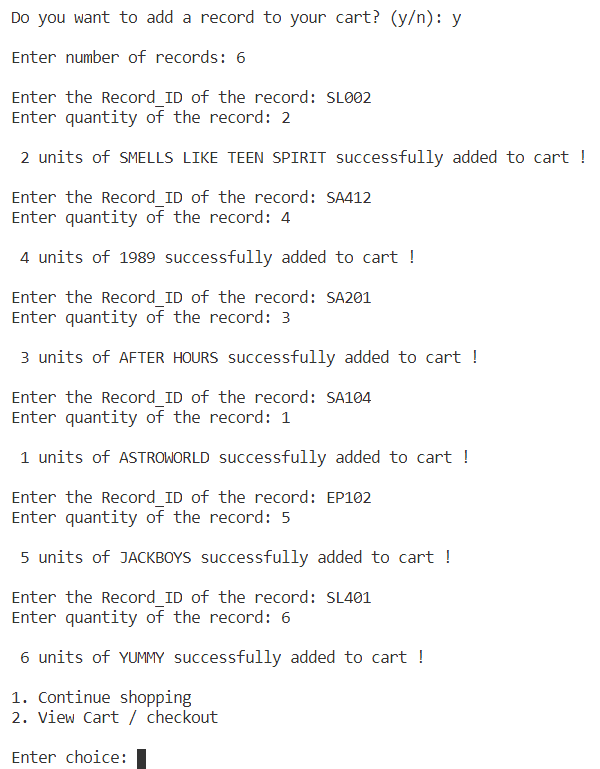
**Sub-Menu 4: Browsing by Era**



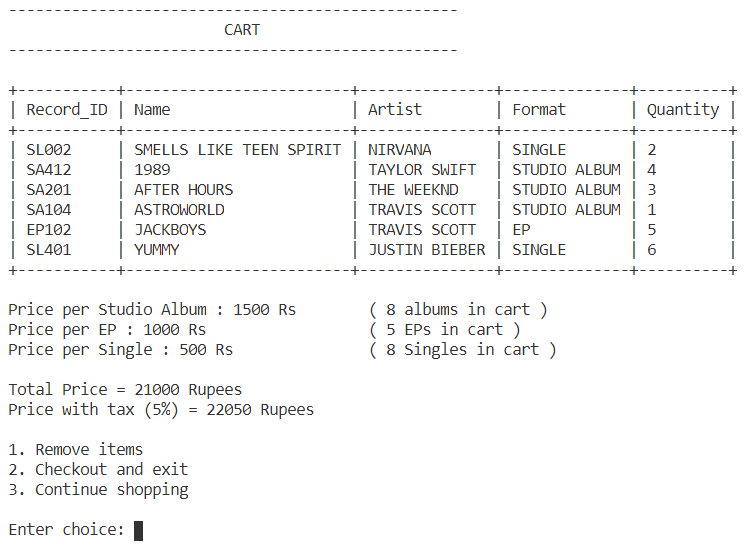
**View Cart (empty)**



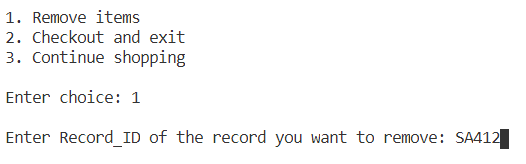
**Query to add records**



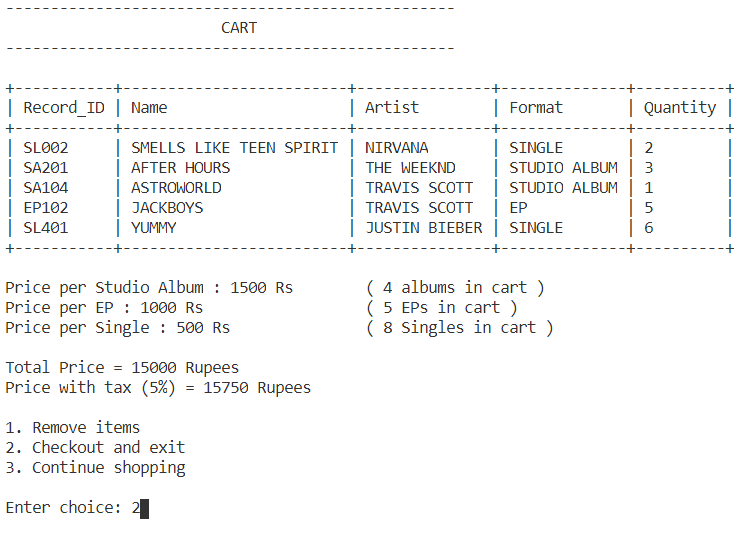
**Viewing Cart**



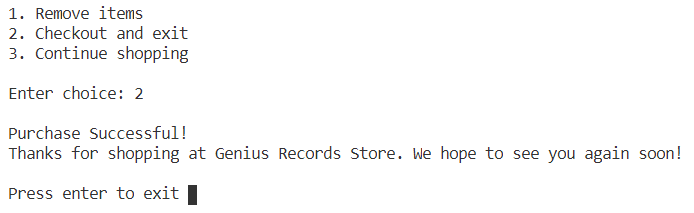
**Removing a Record**



**Final View Cart before checkout (after record removed)**



**Checking out**



**BIBLIOGRAPHY**

www.google.com

Sumita Arora Class XII Textbook

www.discogs.com