FP5.0 Module-3 Project

Batch Name:	**Infosys FP5.0 Summer Internship 2018**
Enrollment No:	**R110215062**
SAP ID:	**500044606**
NAME:	**Kanwaljit Singh**
Semester:	**VI**
Branch:	**CSE CCVT**

Specifications :-

The project is to extend the InstaDB project by integrating the Oracle database with a Python program.
The Python Program should connect to InstaDB and allow the user to perform given queries.
The data needs to be pulled from multiple tables using SQL queries and logic needs to be written in Python program to join the result from those queries to get the desired result. (However, you will learn a simpler way of achieving the same result in Module 5 using ˜Join" operator.)
For query Which of my pictures has received maximum likes ?:
Retrieve pic ids from "Pictures" Table where user-id = myUserId and store them in Python list
Iterate over that list, say using For loop of Python, and retrieve no. of likes for each of these pictures from "Likes" table, and store in another list
Find and display the picture id with maximum likes

What needs to be done:
Write a Python program that connects to database created in InstaDB project
Program should show menu based choices from 1 to 8 for each of the given queries and execute the query based on users choice:
Max Likes
Min Likes
Who liked most
Music pictures
Popular Tag
Most liked User
Old Tagging
Delete Inactive Users
After displaying results of a query in console window, main menu should appear again and prompt for users choice

Solution :-

```
1.  import cx_Oracle as db
2.
3.  try :
4.      con = db.connect("Python2/learn@localhost/xe")
5.  except db.DatabaseError:
6.      print ("Connection failed\nExiting Program...")
7.  else:
8.      cur = con.cursor()
9.
10.     ch = ''
11.     while (1):
12.         print("1. Max Likes")
13.         print("2. Min Likes")
14.         print("3. Who Liked Most")
15.         print("4. Music Pictures")
16.         print("5. Popular Tag")
17.         print("6. Most Liked User")
18.         print("7. Old Tagging")
19.         print("8. Delete Inactive User")
20.         print()
21.         ch = (input("Enter your choice (q to quit): "))
22.         if(ch=='1'):
23.             max_like = -1
24.             max_liked_pic = 0
25.             user_id = input("Enter your userID: ")
26.             cur.execute("SELECT PictureID FROM Pictures WHERE UserID = :id", [user_id])

27.             pictures = cur.fetchall()
28.             if(len(pictures)==0):
29.                 print("\nYou have no pictures.")
30.             else:
31.                 for pics in pictures:
32.                     cur.execute("SELECT COUNT(UserID) FROM LikedPictures WHERE PictureI
    D = :id", [pics[0]])
33.                     likes = cur.fetchone()[0]
34.                     if(max_like < likes):
35.                         max_like = likes
36.                         max_liked_pic = pics[0]
37.                 cur.execute("SELECT Captions FROM Pictures WHERE PictureID = :id", [max
    _liked_pic])
38.                 caption = cur.fetchone()[0]
39.                 print("\nYour max liked picture:-")
40.                 print("Picture id\t:\t", max_liked_pic)
41.                 print("Caption\t\t:\t", caption)
42.                 print("Likes\t\t:\t", max_like)
43.
44.         elif(ch=='2'):
45.             min_like = 1000000000
46.             min_liked_pic = 0
47.             user_id = input("Enter your userID: ")
48.             cur.execute("SELECT PictureID FROM Pictures WHERE UserID = :id", [user_id])

49.             pictures = cur.fetchall()
50.             if(len(pictures)==0):
51.                 print("\nYou have no pictures.")
52.             else:
53.                 for pics in pictures:
54.                     cur.execute("SELECT COUNT(UserID) FROM LikedPictures WHERE PictureI
    D = :id", [pics[0]])
55.                     likes = cur.fetchone()[0]
56.                     if(min_like > likes):
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```
                        min_like = likes
                        min_liked_pic = pics[0]
                cur.execute("SELECT Captions FROM Pictures WHERE PictureID = :id", [min
_liked_pic])
                caption = cur.fetchone()[0]
                print("\nYour max liked picture:-")
                print("Picture id\t:\t", min_liked_pic)
                print("Caption\t\t:\t", caption)
                print("Likes\t\t:\t", min_like)
        elif(ch=='3'):
            cur.execute("SELECT UserID FROM USERS")
            users = cur.fetchall()
            max_liking_user = 0
            max_user_likes = -1
            for user in users:
                cur.execute("SELECT COUNT(PictureID) FROM LikedPictures WHERE UserID =
:id", [user[0]])
                liked_pictures = cur.fetchone()[0]
                if(liked_pictures > max_user_likes):
                    max_user_likes = liked_pictures
                    max_liking_user = user[0]
            cur.execute("SELECT FirstName FROM Users WHERE UserID = :id", [max_liking_u
ser])
            first_name = cur.fetchone()[0]
            cur.execute("SELECT LastName FROM Users WHERE UserID = :id", [max_liking_us
er])
            last_name = cur.fetchone()[0]
            if(last_name == None):
                last_name = ''
            name = first_name + " " + last_name
            print("\nUser who liked most:-")
            print("UserID\t\t:\t", max_liking_user)
            print("UserName\t:\t", name)
            print("PicturesLiked\t:\t", max_user_likes)
        elif(ch=='4'):
            cur.execute("SELECT PictureID FROM TaggedPictures WHERE TagName = 'Music'")

            music_pictures = cur.fetchall()
            print("\nMusic Pictures :- ")
            for picture in music_pictures:
                cur.execute("SELECT Captions, EXTRACT (DAY FROM DateOfPosting), EXTRACT
 (MONTH FROM DateOfPosting), EXTRACT (YEAR FROM DateOfPosting) FROM Pictures WHERE Pict
ureID = :id", [picture[0]])
                info = cur.fetchone()
                cur.execute("SELECT FirstName, LastName FROM Users WHERE UserID = (SELE
CT UserID FROM Pictures WHERE PictureID = :id)", [picture[0]])
                name = cur.fetchone()
                print("Picture ID\t:\t", picture[0])
                print("Posted on\t:\t", str(info[1]) + "/" + str(info[2]) + "/" + str(i
nfo[3]))
                print("Posted By\t:\t", name[0] + " " + name[1])
                print("Caption\t\t:\t", info[0])
                        print()

               elif(ch=='5'):
                   popular_tag = ''
                   used = -1
                   cur.execute("SELECT TagName FROM Tags")
                   tags = cur.fetchall()
                   for tag in tags:
                       cur.execute("SELECT COUNT(PictureID) FROM TaggedPictures WHERE
TagName = :id", [tag[0]])
                       tag_used = cur.fetchone()[0]
                       if(tag_used > used):
                           used = tag_used
                           popular_tag = tag[0]
```

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                    print("\nPopular Tag :-")
                    print("Tag\t:\t", popular_tag)
                    print("Used\t:\t", str(used) + " times")
                elif(ch=='6'):
                    most_liked_user = 0
                    no_of_likes = -1
                    cur.execute("SELECT UserID FROM Users")
                    users = cur.fetchall()
                    for user in users:
                        cur.execute("SELECT PictureID FROM Pictures WHERE UserID = :id"
    , [user[0]])
                        pictures = cur.fetchall()
                        likes = 0
                        for pic in pictures:
                            cur.execute("SELECT COUNT(UserID) FROM LikedPictures WHERE
    PictureID = :id", [pic[0]])
                            likes = likes + int(cur.fetchone()[0])
                        if(likes > no_of_likes):
                            no_of_likes = likes
                            most_liked_user = user[0]
                    cur.execute("SELECT FirstName, LastName FROM Users WHERE UserID = :
    id", [most_liked_user])
                    f_l_name = cur.fetchone()
                    if(f_l_name[1] == None):
                        name = f_l_name[0]
                    else:
                        name = f_l_name[0] + " " + f_l_name[1]
                    print("\nMost Liked User:-")
                    print("UserID\t\t:\t", most_liked_user)
                    print("UserName\t:\t", name)
                    print("Likes\t\t:\t", no_of_likes)
                    print()

                elif(ch=='7'):
                    user_id = input("Enter your userid: ")
                    cur.execute("SELECT EXTRACT (YEAR FROM SysDate) FROM DUAL")
                    curr_year = cur.fetchone()[0]
                    old_year = int(curr_year) - 3
                    cur.execute("SELECT PictureID FROM Pictures WHERE UserID = :id AND
    DateOfPosting < TRUNC(ADD_MONTHS(SYSDATE, -3*12))", [user_id])
                    old_pics = cur.fetchall()[0]
                    for pic in old_pics:
                        print("PictureID : ", pic[0])
                        tag = input("Enter Tag: ")
                        cur.execute("SELECT TagName FROM Tags WHERE TagName = :tag", [t
    ag])
                        if(len(cur.fetchall()) == 0):
                           cur.execute("INSERT INTO Tags VALUES (:tag)", [tag])
                        cur.execute("INSERT INTO TaggedPictures VALUES (:pic, :tag)", [
    pic[0], tag])
                        print()

                elif(ch=='8'):
                    inactive_user_ids = []
                    cur.execute("SELECT UserID FROM Users")
                    users = cur.fetchall()
                    for user in users:
                        active = 0
                        cur.execute("SELECT PictureId FROM Pictures WHERE UserId = :id
    AND DateOfPosting >  TRUNC(ADD_MONTHS(SYSDATE, -12))", [user[0]])
                        pics = cur.fetchall()
                        if(len(pics) == 0):
                            inactive_user_ids.append(user[0])
                    for user in inactive_user_ids:
                        cur.execute("SELECT PictureID FROM Pictures WHERE UserID = :id"
    , [user])
```

```
                        pics = cur.fetchall()
                # Deleting child values so that parent value (user can be safely delete
    d)
                        for pic in pics:
                            cur.execute("DELETE FROM TaggedPictures WHERE PictureID = :
    id", [pic[0]])
                            cur.execute("DELETE FROM LikedPictures WHERE PictureID = :i
    d", [pic[0]])
                            cur.execute("DELETE FROM Pictures WHERE PictureID = :id", [
    pic[0]])
                        cur.execute("DELETE FROM LikedPictures WHERE UserID  = :id", [u
    ser])
                # Deleting parent value (safely)
                        cur.execute("DELETE FROM Users WHERE UserID = :id", [user])
                        con.commit()
                    print ("Deleted %d Users" % len(inactive_user_ids))

                elif(ch=='q' or ch=='Q'):
                    break
                else:
                    print("Incorrect choice\nPlease enter between 1 and 8 or q to quit"
    )
                print()
            con.close()
```

Snapshots :-

```
1. Max Likes
2. Min Likes
3. Who Liked Most
4. Music Pictures
5. Popular Tag
6. Most Liked User
7. Old Tagging
8. Delete Inactive User

Enter your choice (q to quit): 1
Enter your userID: 3

Your max liked picture:-
Picture id      :       1
Caption         :       Great Art
Likes           :       4

1. Max Likes
2. Min Likes
3. Who Liked Most
4. Music Pictures
5. Popular Tag
6. Most Liked User
7. Old Tagging
8. Delete Inactive User

Enter your choice (q to quit): 2
Enter your userID: 3

Your max liked picture:-
Picture id      :       3
Caption         :       At Manali
Likes           :       1

1. Max Likes
2. Min Likes
3. Who Liked Most
4. Music Pictures
5. Popular Tag
6. Most Liked User
7. Old Tagging
8. Delete Inactive User

Enter your choice (q to quit):
```

```
Enter your choice (q to quit): 3

User who liked most:-
UserID          :       1
UserName        :       Amit Aggrawal
PicturesLiked   :       3

1. Max Likes
2. Min Likes
3. Who Liked Most
4. Music Pictures
5. Popular Tag
6. Most Liked User
7. Old Tagging
8. Delete Inactive User

Enter your choice (q to quit): 4

Music Pictures :-
Picture ID      :       6
Posted on       :       14/9/2016
Posted By       :       Amit Aggrawal
Caption         :       Best

Picture ID      :       7
Posted on       :       1/7/2018
Posted By       :       Jayesh Arya
Caption         :       Awesome


1. Max Likes
2. Min Likes
3. Who Liked Most
4. Music Pictures
5. Popular Tag
6. Most Liked User
7. Old Tagging
8. Delete Inactive User

Enter your choice (q to quit): 5

Popular Tag :-
Tag     :       Art
Used    :       3 times

1. Max Likes
2. Min Likes
```

```
Enter your choice (q to quit): 5

Popular Tag :-
Tag     :         Art
Used    :         3 times

1. Max Likes
2. Min Likes
3. Who Liked Most
4. Music Pictures
5. Popular Tag
6. Most Liked User
7. Old Tagging
8. Delete Inactive User

Enter your choice (q to quit): 6

Most Liked User:-
UserID          :         3
UserName        :         Akash
Likes           :         5


1. Max Likes
2. Min Likes
3. Who Liked Most
4. Music Pictures
5. Popular Tag
6. Most Liked User
7. Old Tagging
8. Delete Inactive User

Enter your choice (q to quit):
```

```
1. Max Likes
2. Min Likes
3. Who Liked Most
4. Music Pictures
5. Popular Tag
6. Most Liked User
7. Old Tagging
8. Delete Inactive User

Enter your choice (q to quit): 7
Enter your userid: 3
PictureID :  1
Enter Tag: Science


1. Max Likes
2. Min Likes
3. Who Liked Most
4. Music Pictures
5. Popular Tag
6. Most Liked User
7. Old Tagging
8. Delete Inactive User

Enter your choice (q to quit):
```

```
1. Max Likes
2. Min Likes
3. Who Liked Most
4. Music Pictures
5. Popular Tag
6. Most Liked User
7. Old Tagging
8. Delete Inactive User

Enter your choice (q to quit): 8
Deleted 2 Users

1. Max Likes
2. Min Likes
3. Who Liked Most
4. Music Pictures
5. Popular Tag
6. Most Liked User
7. Old Tagging
8. Delete Inactive User

Enter your choice (q to quit): 0
Incorrect choice
Please enter between 1 and 8 or q to quit

1. Max Likes
2. Min Likes
3. Who Liked Most
4. Music Pictures
5. Popular Tag
6. Most Liked User
7. Old Tagging
8. Delete Inactive User

Enter your choice (q to quit): q
>>>
```

****END OF PROJECT****