AMERICAN INTERNATIONAL UNIVERSITY - BANGLADESH

INTRODUCTION TO DATABASE

FINAL-TERM PROJECT

Section: [C]

Title: FOOD COURT MANAGEMENT SYSTEM

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FOOD COURT Management

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1. Introduction:

The project “Food Court Management” is solely made for to keep track of the business data as a lot of interaction happens. It helps to keep track of data for almost everything thus resulting a great result.

In food court there are restaurant, employee who works there, as well as storage unit where raw elements are kept needs to be accounted as well as needs to stay updated on whether it needs to get refilled or not. If it weren’t for this particular system, it would be hard for the owner or the workers to keep track of this. If needed to fill the storeroom, they can use this system and contact with particular vendor to get their desired product which makes it easier to work on. Also as sometime same customer visits frequently it would be wise to keep their information to help ahead in future. It also feature Vending machine’s data, Order,feedback details, Parking, arcade, book corner’s data etc.

It could be said that FoodCourt Management will be a lot of help for the owners, employees, as well as customers to keep track of data correctly and to get information.

2. Table List

- Arcade
- Book Corner
- Customer
- Employee
- Feedback
- Food Court
- Menu
- Order
- Parking
- Restaurant
- Store Room
- Vending Machine
- Vendor

3. Normalization

For Vendor

Consist(V_ID, V_phone,V_loc)

1NF: V_phone multivalued attribute

2NF: A table is in 2NF, only if a relation is in 1NF and meet all the rules, and every non-key attribute is fully dependent on primary key. But in this case for Vendor, non-key attribute is not fully dependent on primary key thus 2nf form cannot be achieved

3NF: As there is no 2nf as well as no transitive dependency it can not create 3nf.

4. Table Creation

1. **Arcade**

   1] Table Create:
   CREATE TABLE Arcade(g_id number(3),g_name varchar2(20),g_type varchar2(10),coins number(2));

   2]Primary Key:
   ALTER TABLE arcade
   add constraint arc_pk primary key (g_id);

   3]Data Insertion:
   INSERT INTO arcade values (365,'Basket Ball','SPORTS',2);
   INSERT INTO arcade values (566,'VALORANT','FPS',5);
   INSERT INTO arcade values (454,'PACMAN','ARCADE',1);
   INSERT INTO arcade values (453,'MARIO KART','RACING',2);
   INSERT INTO arcade values (534,'PINBALL','ARCADE',3);

G_ID	G_NAME	G_TYPE	COINS
365	Basket Ball	SPORTS	2
566	VALORANT	FPS	5
454	PACMAN	ARCADE	1
453	MARIO KART	RACING	2
534	PINBALL	ARCADE	3

2. **Book Corner**

   1] Table Create:
   CREATE TABLE BookCorner(Bk_id number(5),bk_name varchar2(20),author varchar2(18),genre varchar2(10));

   2]Primary Key:
   ALTER TABLE BookCorner
   add constraint bc_pk primary key (bk_id);

   3]Data Insertion:
   INSERT INTO BookCorner values (3658,'The Great Gatsby','F.Scott Fitzgerald','Tragedy');
   INSERT INTO BookCorner values (4344,'BELOVED','Toni Morrison','Literature');
   INSERT INTO BookCorner values (1144,'To Kill aMockingbird','Harper Lee','Gothic');
   INSERT INTO BookCorner values (7764,'Catch-22','Joseph Heller','War Novel');
   INSERT INTO BookCorner values (5435,'Harry potter','J.K.Rowling','Fantasy');

BK_ID	BK_NAME	AUTHOR	GENRE
3658	The Great Gatsby	F.Scott Fitzgerald	Tragedy
4344	BELOVED	Toni Morrison	Literature
1144	To Kill aMockingbird	Harper Lee	Gothic
7764	Catch-22	Joseph Heller	War Novel
5435	Harry potter	J.K.Rowling	Fantasy

3. **Customer**

1] Table:
CREATE TABLE cstmr (c_id number(10), c_name varchar2(20),table_no number(18));

2]Primary Key:
ALTER TABLE cstmr
add constraint c_id_pk primary key (c_id);

3] Data Insertion:
INSERT INTO cstmr values (142,'ANU',5);
INSERT INTO cstmr values (789,'LAMIA',12);
INSERT INTO cstmr values (123,'JASPER',7);
INSERT INTO cstmr values (456,'AKIO',9);
INSERT INTO cstmr values (897,'LEONA',20);

C_ID	C_NAME	TABLE_NO
142	ANU	5
789	LAMIA	12
123	JASPER	7
456	AKIO	9
897	LEONA	20

4. **Employee**

1] Table:
CREATE TABLE emp (e_id number(4),e_name varchar2(10),sal number(8),job varchar2(9),mgr number(4),gndr varchar2(6),shift varchar2(10),res_no number(5));

2]Primary Key:
ALTER TABLE emp
add constraint e_id_pk primary key (e_id);
3] Check:
ALTER TABLE emp
ADD CONSTRAINT chk_gndr CHECK (gndr IN('Male','FEMALE'));

4] Foreign Key:
ALTER TABLE emp
ADD CONSTRAINT resno_fk Foreign Key (res_no)
REFERENCES rstrnt(res_no);

5]DATA Insertion:
INSERT INTO emp values (6567,'TAHSIN',8000,'WAITER',5674,'Male','DAY',1);
INSERT INTO emp values (5674,'RUBEL',50000,'MANAGER', 0,'Male','DAY',1);
INSERT INTO emp values (7858,'JERIN',8000,'WAITER', 5674,'FEMALE','DAY',1);
INSERT INTO emp values (4334,'RAFSAN',35000,'CHEF', 9767,'Male','DAY',4);
INSERT INTO emp values (9767,'MEHZEBIN',40000,'MANAGER', 0,'FEMALE','NIGHT',4);
INSERT INTO emp values (5675,'SHEZAN',35000,'CHEF', 9767,'Male','EVENING',4);

E_ID	E_NAME	SAL	JOB	MGR	GNDR	SHIFT	RES_NO
6567	TAHSIN	8000	WAITER	5674	Male	DAY	1
5674	RUBEL	50000	MANAGER	0	Male	DAY	1
7858	JERIN	8000	WAITER	5674	FEMALE	DAY	1
4334	RAFSAN	35000	CHEF	9767	Male	DAY	4
9767	MEHZEBIN	40000	MANAGER	0	FEMALE	NIGHT	4
5675	SHEZAN	35000	CHEF	9767	Male	EVENING	4

5. **Feedback**

1] Creating table:
CREATE TABLE feedback (fb_no number(10), c_id number(10), food_quality varchar2(20), service varchar2(20));

2]Adding Primary Key:
ALTER TABLE feedback
add constraint fb_pk primary key (fb_no);

3] Foreign Key:
ALTER TABLE feedback
ADD CONSTRAINT CID_FK FOREIGN KEY(c_id)
REFERENCES cstmr (c_id);

4]Data Insertion:
INSERT INTO feedback values (1,456,6,6);
INSERT INTO feedback values (2,789,10,8);
INSERT INTO feedback values (3,897,8,8);
INSERT INTO feedback values (4,142,6,6);
INSERT INTO feedback values (5,123,6,8);

FB_NO	C_ID	FOOD_QUALITY	SERVICE
1	456	6	6
2	789	10	8
3	897	8	8
4	142	6	6
5	123	6	8

5 rows returned in 0.00 seconds CSV Export

6. **Food Court**

1] Table Creation:

CREATE TABLE FOODCOURT (FC_no Number(2),FC_name varchar2(20),Owner_name Varchar2(10),item_id number(4),Serial number(10),res_no number(5),ticket number(10),Bk_id number(5),g_id number(3));

2] Primary Key:

```
ALTER TABLE FoodCourt
add constraint fc_pk primary key (fc_no);
```

3]Foreign Keys:

```
ALTER TABLE FoodCourt
ADD CONSTRAINT resno_fk_fc Foreign Key (res_no)
REFERENCES rstrnt(res_no);

ALTER TABLE FoodCourt
ADD CONSTRAINT gid_fk_fc Foreign Key (g_id)
REFERENCES arcade(g_id);

ALTER TABLE FoodCourt
ADD CONSTRAINT serial_fk_fc Foreign Key (serial)
REFERENCES vndmchn(serial);

ALTER TABLE FoodCourt
ADD CONSTRAINT bkid_fk_fc Foreign Key (bk_id)
REFERENCES bookcorner(bk_id);

ALTER TABLE FoodCourt
ADD CONSTRAINT item_fk_fc Foreign Key (item_id)
REFERENCES StoreRoom(item_id);

ALTER TABLE FoodCourt
ADD CONSTRAINT ticket_fk_fc Foreign Key (ticket)
REFERENCES prking(ticket);
```

4]Data Insertion:

INSERT INTO foodcourt values (1,'SKYPEA FOODCOURT','MONKEY D LUFFY',502,1,4,2567,5435,566);

FC_NO	FC_NAME	OWNER_NAME	ITEM_ID	SERIAL	RES_NO	TICKET	BK_ID	G_ID
1	SKYPEA FOODCOURT	MONKEY D LUFFY	502	1	4	2567	5435	566

7. **Menu**

1]Table:
CREATE TABLE menu(res_no number(4),food_name varchar2(25),food_type varchar2(8),food_no number(5),price number(6),ratio number (4));

2]Primary Key:
ALTER TABLE menu
add constraint food_no_pk primary key (food_no);

3]Foreign Key:
ALTER TABLE Menu
ADD CONSTRAINT resno_fk_menu Foreign Key (res_no)
REFERENCES rstrnt(res_no);
4]Data Insertion:
INSERT INTO menu values (2,'Gourmet Beef Burger','AMERICAN',5,500,1);
INSERT INTO menu values (5,'LATTE','CAFE',7,300,1);
INSERT INTO menu values (4,'Tteokbokki','KOREAN',13,699,2);
INSERT INTO menu values (3,'SEA FOOD PIZZA','ITALIAN',4,1500,4);
INSERT INTO menu values (1,'Ilish Polao','BENGALI',15,250,1);
INSERT INTO menu values (5,'CHOCO BROWNIE','CAFE',12,115,1);

RES_NO	FOOD_NAME	FOOD_TYPE	FOOD_NO	PRICE	RATIO
2	Gourmet Beef Burger	AMERICAN	5	500	1
5	LATTE	CAFE	7	300	1
4	Tteokbokki	KOREAN	13	699	2
3	SEA FOOD PIZZA	ITALIAN	4	1500	4
1	Ilish Polao	BENGALI	15	250	1
5	CHOCO BROWNIE	CAFE	12	115	1

8. **Order**

1]Table Create:
CREATE TABLE Ordr (order_no number(10), c_id number(10),e_id number(4), food_no number(10), price number(10));

2]Adding Primary KEy:
ALTER TABLE ordr
add constraint ord_pk primary key (order_no);

3]Foreign Key:
ALTER TABLE ordr
ADD CONSTRAINT cid_fk_ordr Foreign Key (c_id)
REFERENCES cstmr(c_id);

ALTER TABLE ordr
ADD CONSTRAINT eid_fk_ordr Foreign Key (e_id)
REFERENCES emp(e_id);

4]Data Insertion:
INSERT INTO ordr values (1,456,7858,7,300);
INSERT INTO ordr values (2,789,6567,13,699);
INSERT INTO ordr values (3,142,6567,7,300);
INSERT INTO ordr values (4,897,7858,12,250);
INSERT INTO ordr values (5,123,6567,5,500);

ORDER_NO	C_ID	E_ID	FOOD_NO	PRICE
1	456	7858	7	300
2	789	6567	13	699
3	142	6567	7	300
4	897	7858	12	250
5	123	6567	5	500

9. Parking

1] Table Create:
CREATE TABLE prking(ticket number(10), car_license varchar2(30),time varchar2(15))

2] Primary Key:
ALTER TABLE prking
add constraint ticket_pk primary key (ticket);

3]Data Insertion:
INSERT INTO prking values (2567,'Dhaka Ga 20','5.30 P.M');
INSERT INTO prking values (4444,'Sylhet Gha 50','11.08 A.M');
INSERT INTO prking values (4344,'DHAKA KA 23','3.20 P.M');
INSERT INTO prking values (3664,'KHULNA KA 23','10.45 A.M');
INSERT INTO prking values (4555,'COMILLA KHA 23','7.00 A.M');

TICKET	CAR_LICENSE	TIME
2567	Dhaka Ga 20	5.30 P.M
4444	Sylhet Gha 50	11.08 A.M
4344	DHAKA KA 23	3.20 P.M
3664	KHULNA KA 23	10.45 A.M
4555	COMILLA KHA 23	7.00 A.M

10. **Restaurant**

1]Table Create:
CREATE TABLE rstrnt(res_no number(5), res_name varchar2(20),price_range varchar2(3),Food_Type varchar2(10));

2] Primary Key:
ALTER TABLE rstrnt
add constraint res_no_pk primary key (res_no);

3] Data Insertion:
INSERT INTO rstrnt values (1,'Torkari Ghor','$','BENGALI');
INSERT INTO rstrnt values (2,'Burger&Cheese','$$','AMERICAN');
INSERT INTO rstrnt values (3,'E Che Pizza!','$$$','ITALIAN');
INSERT INTO rstrnt values (4,'Jin Joo Grill','$$$','Korean');
INSERT INTO rstrnt values (5,'The Busy Been','$$','Café');

RES_NO	RES_NAME	PRICE_RANGE	FOOD_TYPE
1	Torkari Ghor	$	BENGALI
2	Burger&Cheese	$$	AMERICAN
3	E Che Pizza!	$$$	ITALIAN
4	Jin Joo Grill	$$$	Korean
5	The Busy Been	$$	Café

11. **Store Room**

1] Table Create:
CREATE TABLE StoreRoom(item_id number(4),v_id number(6),item_name varchar2(6),status varchar2(8));

2] Primary Key:
ALTER TABLE StoreRoom
add constraint sr_pk primary key (item_id);

3]Foreign Key:
ALTER TABLE StoreRoom
ADD CONSTRAINT vid_fk Foreign Key (v_id)
REFERENCES vendor(v_id);

4] DATA Insertion:
INSERT INTO StoreRoom values (502,320,'FISH','FILLED');
INSERT INTO StoreRoom values (604,365,'VEGS','EMPTY');
INSERT INTO StoreRoom values (912,378,'CHIKEN','FILLED');
INSERT INTO StoreRoom values (713,429,'SPICES','FILLED');
INSERT INTO StoreRoom values (987,444,'BEEF','EMPTY');

ITEM_ID	V_ID	ITEM_NAME	STATUS
502	320	FISH	FILLED
604	365	VEGS	EMPTY
912	378	CHIKEN	FILLED
713	429	SPICES	FILLED
987	444	BEEF	EMPTY

12. Vending Machine

1] Table Create:
CREATE TABLE Vndmchn (Serial number(10),price number(4),beverages varchar2(10))

2]Primary Key:
ALTER TABLE Vndmchn
add constraint vm_pk primary key (serial);

3] Data Insertion:
INSERT INTO vndmchn values (1,25,'COKE');
INSERT INTO vndmchn values (2,25,'SPRITE');
INSERT INTO vndmchn values (3,20,'MERINDA');
INSERT INTO vndmchn values (4,15,'WATER');
INSERT INTO vndmchn values (5,25,'JUICE');

SERIAL	PRICE	BEVERAGES
1	25	COKE
2	25	SPRITE
3	20	MERINDA
4	15	WATER
5	25	JUICE

13. Vendor

1] Table Create:
CREATE TABLE vendor (V_id number(6),V_name varchar2(10), V_phone number(11), V_loc varchar2(8));

2] Primary Key:

ALTER TABLE vendor
add constraint vdr_pk primary key (V_id);

3]Data Insertion:
INSERT INTO VENDOR values (320,'RAHIM',01786643211,'KHULNA');
INSERT INTO VENDOR values (365,'JAMAL',1649258599,'COMILLA');
INSERT INTO VENDOR values (378,'JASHIM',01986564567,'COMILLA');
INSERT INTO VENDOR values (429,'AFZAL',01789766564,'DHAKA');
INSERT INTO VENDOR values (444,'KERAMOT',01864456546,'JESSORE');

V_ID	V_NAME	V_PHONE	V_LOC
320	RAHIM	1786643211	KHULNA
365	JAMAL	1649258599	COMILLA
378	JASHIM	1986564567	COMILLA
429	AFZAL	1789766564	DHAKA
444	KERAMOT	1864456546	JESSORE

5. Query

1. Display the employee id,name,Salary and salary increase by 20% expressed as a whole number. Label the column Increased Salary.

ans: SELECT e_id,e_name,sal, (sal+sal*0.2)"INCREASED SALARY"

FROM EMP;

2.Write a query that shows the following for each employee : <employee name>wants <2 times salary but has <salary>.Label the column as Hope Salary.

ans: SELECT e_name||' '||'Wants'||' '||2*sal||' '||'but has'||' '||sal

FROM EMP;

3.Write a query to show empty items in store room.

ans:SELECT item_id, item_name,status

FROM STOREROOM

WHERE STATUS='EMPTY';

4.Find the average, maximum and minimum salary of the employee.

ans: SELECT ROUND(AVG(sal),2) "Average Salary",MAX(sal) "Maximum Salary" ,MIN(sal) "Minimum Salary"

FROM emp;

5.Find the average,maximum and minimum salary of the employees accourding to their job.

ans: SELECT job,ROUND(AVG(sal),2) "Average Salary",MAX(sal) "Maximum Salary" ,MIN(sal) "Minimum Salary"

FROM emp

GROUP BY job;

6.Show food costing atleast 330 taka and it has the ratio for atleast 2 people from Menu table.

ans: SELECT Food_name,price,ratio,food_type

FROM Menu

WHERE price>330

AND ratio>=2;

7. Show games from arcade and order by coins in descending order.

ans:SELECT G_name,coins

FROM Arcade

ORDER BY coins desc;

8.Write a SQL showing food quality is lesser than 10 or service greater than 5 according to their rating.

ans: SELECT fb_no,food_quality,Service

FROM Feedback

WHERE Food_quality<10

or service>5;

9.Write a query to retrieve the first two characters of customer name from customer.

ans: SELECT c_name,substr(c_name,1,2) "First two Letters of Name"

from cstmr;

10.Show a query to show the name of the customer who gave feedback with their ratings on foodquality and service.

ans: SELECT c.c_name, f.c_id,f.food_quality,f.service

from feedback f, cstmr c

where f.c_id=c.c_id

order by c.c_name;

7. Views And Sequence

VIEW:

1. Create a view called View_Emp based on the employee id, name, job from employee table.
ans:CREATE VIEW view_emp as
SELECT e_id, e_name, job
from emp;

2. Create a view for Vendor lists with Column aliases
ans:CREATE OR REPLACE VIEW view_vendor as
SELECT v_id "Vendor ID", v_name "Vendor Name", v_phone "Vendor Phone",v_loc "Vendor Location"
from vendor;

3. Create a view for Restaurant using read only
ans:CREATE OR REPLACE VIEW view_rst as
SELECT res_name "RESTAURANT", price_range " Price Range", Food_type "Food Type"
FROM rstrnt
WITH READ ONLY;

4. Create a view for Customers denying dml operations
ans:CREATE OR REPLACE VIEW view_cstm as
SELECT c_id,c_name,table_no
FROM cstmr
WITH READ ONLY;

5. Retrieve View_vendor.
ans:SELECT *
FROM view_vendor

Sequence:

1.Create a sequence for the parking, named parking_ticket to be used for primary key of the table

ans: CREATE SEQUENCE parking_ticket

INCREMENT BY 13

START WITH 4555

NOMAXVALUE

NOCACHE

NOCYCLE;

2. Insert a new car license "Chatto Gha 29" at 6.29 p.m.

ans:INSERT INTO prking(ticket,car_license,time)

VALUES (parking_ticket.NEXTVAL,'CHATTO GHA 29','6:29 P.M.');

3. View the current value for Parking_ticket.

ans:SELECT parking_ticket.CURRVAL

from dual;

4. Change the increment value by 5 and add maximum value.

ans:

ALTER SEQUENCE parking_ticket

INCREMENT BY 5

MAXVALUE 99999

NOCACHE

NOCYCLE;

5. Drop the above sequence.

ans:DROP SEQUENCE parking_ticket;

Contributions:

Name	ID	Tasks	Percentage
Tasnim Akter Lamia	21-44847-2	E-R Diagram, Table Creations, DML, Query, Views,	48%
MD. Masfikur Rahman Anu	21-44885-2	E-R Diagram, Table Creations, DDL, DML, Query, Views, Sequence, Normalisation	52%