

الجامعة الإسلامية العالمية ماليزيا
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
يُؤْتِيهِمُ اللَّهُ مِنْ فَضْلِهِ يُشْرِكُ

Kulliyyah Of Information And Communication Technology

Department of Information

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INFO 2102 Database Systems 2

PROJECT

Business Scenario: IIUM Exhibition Management System

Section 01

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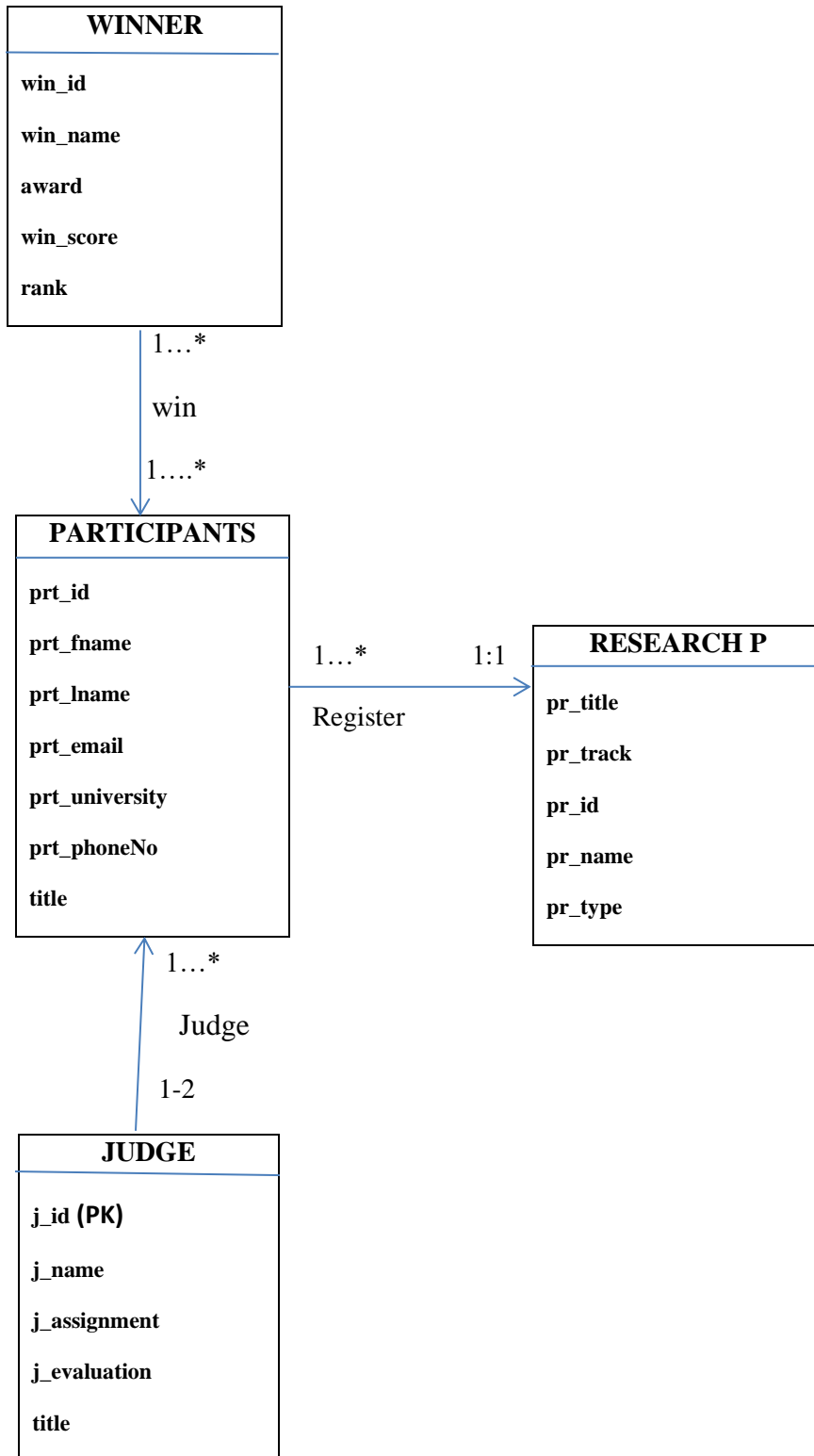
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ER/ERR Diagram:



DATA Dictioanry:

Create table payment

(pay_id number (4),
amount number (12) NOT NULL,
university varchar2(8),
pay_date date,
PRIMARY KEY (pay_id));

Create table research_project

(pr_title varchar2(20),
pr_track varchar2(13),
pr_id number (3),
pr_name varchar2(13),
pr_type varchar2(13),
PRIMARY KEY (pr_title));

Create table participant

(prt_id number (3),
prt_fname varchar2(15),
prt_lname varchar2(10),
prt_email varchar2(22),
prt_university varchar2(10),
prt_phoneNo varchar2(10),
title varchar2(20),
PRIMARY KEY (prt_id));

Create table registration

(reg_no number (3),
reg_date date,

```
pay_id number (4),  
prt_id number (3),  
PRIMARY KEY (reg_no));
```

Create table judge

```
(j_id number (3),  
j_name varchar2(10),  
j_assignment varchar2(10),  
j_evaluation varchar2(12),  
title varchar2(20),  
PRIMARY KEY(j_id));
```

Create table winner

```
(win_id varchar2(6),  
win_name number (3),  
award varchar2(10),  
win_score number (3),  
rank varchar2(10),  
PRIMARY KEY (win_score));
```

Tables' attributes and entities:

1. Payment Table

payment
pay_id
amount
university
pay_date

Payment (pay_id , amount , university,pay_date);

PRIMARY KEY pay_id

pay_id	amount	university	pay_date
00543	16000	IIUM	08-DEC-15
00753	13600	UKM	12-DEC-15
00842	10400	USIM	06-DEC-15
00123	4900	IIUM	05-DEC-15
00321	6780	UM	18-DEC-15
00541	15100	UTM	22-DEC-15
00513	13100	IIUM	11-DEC-15
00232	12650	UKM	15-DEC-15
00468	7950	IIUM	14-DEC-15
00569	4995	UM	28-DEC-15
00627	7660	IIUM	30-DEC-15
00137	9830	UM	17-DEC-15
00374	10700	UTM	27-DEC-15
00386	13100	USIM	12-DEC-15

2. Judge table

JUDGE
j_id (PK)
j_name
j_assignment
j_evaluation
title

Judge (j_id,j_name ,j_assignment ,j_evaluation, title);

PK PRIMARY KEY j_id

FOREIGN KEY title

J_id	J_name	J_assignment	J_evaluation	title
01	khan	IIUM	Poster	business
02	nabil	UM	product	social media
03	eraj	UITM	poster	technology
04	zalgi	UKM	product	learning styles
05	Gulkhan	USIM	poster	music effect
06	ahmad	IIUM	product	classical piano
07	fatima	IIUM	product	social media
08	vali	USIM	poster	network
09	ali	UM	poster	ethic

3. Registration Table

registration
reg_no reg_date pay_id prt_id

registration(reg_no ,reg_date ,pay_id, prt_id);

PRIMARY KEY reg_no

FOREIGN KEY pay_id

FOREIGN KEY prt_id

reg_no	reg_date	pay_id	prt_id
05	15-JAN-15	00543	103
31	10-JAN-15	00753	112
12	01-JAN-15	00842	121
15	09-JAN-15	00123	127
02	22-JAN-15	00321	109
17	20-JAN-15	00541	112
11	11-JAN-15	00513	100
14	19-JAN-15	00934	106
04	28-JAN-15	00137	115
01	05-JAN-15	00232	118
06	03-JAN-15	00386	109
09	12-JAN-15	00415	127
03	10-JAN-15	00374	103
07	24-JAN-15	00569	109

4. Research Project table

research_project
pr_title
pr_track
pr_id
pr_name
pr_type

research_project (pr_title,pr_track ,pr_id ,pr_name ,pr_type);

PRIMARY KEY pr_title

check (pr_type IN ('Fundamental','product'));

pr_title	pr_track	pr_id	pr_name	pr_type
learning styles	innovation	136	computer	Fundamental
social media	creativity	342	social media	product
technology	innovation	355	social policy	product
classical piano	music	279	piano	Fundamental
music effect	tv sound	734	keyboard	Fundamental
network	innovation	237	computer	product
ethic	effect	523	real life	Fundamental
business	innovation	421	computer	Fundamental
art	innovation	763	computer	Fundamental

5. Winner Table

winner
win_id
win_name
award
win_score
rank

Winner (win_id, win_name, award ,win_score, rank)

Winner primary key win_id

Winner Foreign key win_name

win_id	win_name	award	win_score	rank
a123	ahmad	gold	95	first
a155	wajiha	gold	100	first
c164	sharifa	silver	85	second
d145	ziba	bronze	64	third
c128	hadis	silver	87	second
e131	fatima	silver	75	second
f131	zabiullah	gold	98	first
d173	nagina	bronze	63	third
g153	shafullah	silver	76	second
c128	hadis	gold	99	first

6. Participant Table

participant
prt_id
prt_fname
prt_lname
prt_email
prt_university
prt_phoneNo
title

Participant (prt_id, prt_fname, prt_lname, prt_email, prt_university, prt_phoneNo, title)

Participant PRIMARY KEY prt_fname

Participant FOREIGN KEY prt_title

prt_id	prt_fname	prt_lname	prt_email	university	prt_phoneNo	title
100	shafullah	wasiq	shafiullah@yahoo.com	UTM	0112724093	learning styles
103	nagina	ahmadi	ahmadi@yahoo.com	UTM	0112724347	classical piano
106	ziba	vali	ziba@hotmail.com	UM	0112724327	music effect
109	zabiullah	abid	zalgi@yahoo.com	UM	0193472431	ethic
112	fatima	naqib	fatimah@gmail.com	IIUM	0182320472	social media
115	zaki	zaki	zahid@hotmail.com	UKM	0137243182	technology
118	sharifa	wahaj	sharifa@yahoo.com	USIM	0182232043	network
121	hadis	ahmadzai	ahmadzai@gmail.com	IIUM	0112745291	social media
124	wajiha	arman	arman15@hotmail.com	UKM	0130977243	technology
127	ahmad	mehran	ahmad@yahoo.com	UM	0111431472	business

SQL Script: (Create tables and sequences based on ER/ERR)

1. Drop Tables

```
DROP TABLE PAYMENT cascade constraints;  
DROP TABLE PARTICIPENT cascade constraints;  
DROP TABLE WINNER cascade constraints;  
DROP TABLE RESEARCH_PROJECT cascade constraints;  
DROP TABLE JUDGE cascade constraints;  
DROP TABLE REGISTRATION cascade constraints;
```

2. Drop Sequences

```
DROP SEQUENCE judge_no_seq;  
DROP SEQUENCE participant_id_seq;
```

3. Create Tables

```
Create table payment  
(pay_id number (4),  
amount number (12) NOT NULL,  
university varchar2(8),  
pay_date date,  
CONSTRAINT payment_pay_id_PK PRIMARY KEY (pay_id));
```

```
Create table research_project  
(pr_title varchar2(20),  
pr_track varchar2(13),  
pr_id number (3),  
pr_name varchar2(13),  
pr_type varchar2(13),  
CONSTRAINT research_project_pr_title_PK PRIMARY KEY (pr_title),  
CONSTRAINT research_project_pr_type_ck check (pr_type IN ('Fundamental','product')));
```

```
Create table participant  
(prt_id number (3),  
prt_fname varchar2(15),  
prt_lname varchar2(10),  
prt_email varchar2(22),  
prt_university varchar2(10),  
prt_phoneNo varchar2(10),  
title varchar2(20),  
CONSTRAINT participant_prt_id_PK PRIMARY KEY (prt_id),
```

```
CONSTRAINT participant_title_FK FOREIGN KEY (title) REFERENCES research_project(pr_title) ON DELETE CASCADE);
```

Create table registration

```
(reg_no number (3),  
reg_date date,  
pay_id number (4),  
prt_id number (3),  
CONSTRAINT registration_reg_no_PK PRIMARY KEY (reg_no),  
CONSTRAINT registration_pay_id_FK FOREIGN KEY (pay_id) REFERENCES payment(pay_id) ON DELETE CASCADE,  
CONSTRAINT registration_prt_id_FK FOREIGN KEY (prt_id) REFERENCES participant(prt_id) ON DELETE CASCADE);
```

Create table judge

```
(j_id number (3),  
j_name varchar2(10),  
j_assignment varchar2(10),  
j_evaluation varchar2(12),  
title varchar2(20),  
CONSTRAINT judge_j_id_PK PRIMARY KEY(j_id),  
CONSTRAINT judge_title_FK FOREIGN KEY (title) REFERENCES research_project(pr_title) ON DELETE CASCADE);
```

Create table winner

```
(win_id varchar2(6),  
win_name number (3),  
award varchar2(10),  
win_score number (3),  
rank varchar2(10),  
CONSTRAINT winner_win_score_PK PRIMARY KEY (win_score),  
CONSTRAINT winner_win_name_FK FOREIGN KEY (win_name) REFERENCES participant (prt_id) ON DELETE CASCADE);
```

4. Insert values into tables

insert into payment	values (00543,16000,'IUM', TO_DATE('08-DEC-15'));
insert into payment	values(00753,13600,'UKM', TO_DATE('12-DEC-15'));
insert into payment	values(00842,10400,'USIM',TO_DATE('06-DEC-15'));
insert into payment	values(00123,4900,'IUM',TO_DATE('05-DEC-15'));
insert into payment	values(00321,6780,'UM',TO_DATE('18-DEC-15'));
insert into payment	values(00541,15100,'UTM',TO_DATE('22-DEC-15'));

insert into payment	values(00513,13100,'IIUM',TO_DATE('11-DEC-15'));
insert into payment	values(00232,12650,'UKM',TO_DATE('15-DEC-15'));
insert into payment	values(00468,7950,'IIUM',TO_DATE('14-DEC-15'));
insert into payment	values(00569,4995,'UM',TO_DATE('28-DEC-15'));
insert into payment	values(00627,7660,'IIUM',TO_DATE('30-DEC-15'));
insert into payment	values(00137,9830,'UM',TO_DATE('17-DEC-15'));
insert into payment	values(00374,10700,'UTM',TO_DATE('27-DEC-15'));
insert into payment	values(00386,13100,'USIM',TO_DATE('12-DEC-15'));

insert into research_project , 'Fundamental');	values('learning styles', 'innovation', 136, 'computer'
insert into research_project 'product');	values('social media', 'creativity', 342, 'social media',
insert into research_project 'product');	values('technology', 'innovation', 355, 'social policy',
insert into research_project	values('classical piano', 'music', 279, 'piano', 'Fundamental');
insert into research_project 'Fundamental');	values('music effect ', 'tv sound', 734, 'keyboard',
insert into research_project	values('network', 'innovation', 237, 'computer', 'product');
insert into research_project	values('ethic', 'effect', 523, 'real life', 'Fundamental');
insert into research_project 'Fundamental');	values('business', 'innovation', 421, 'computer', ,
insert into research_project	values('art', 'innovation', 763, 'computer', 'Fundamental');

insert into participant	values(100,'shafullah','wasiq','shafiullah@yahoo.com','UTM',0112724093,'learning styles');
insert into participant	values(103,'nagina','ahmadi','ahmadi@yahoo.com','UTM',0112724347,'classical piano');
insert into participant	values(106,'wajiha','arman','arman15@hotmail.com','UKM',0130977243,'music effect ');
insert into participant	values(109,'zabiullah','abid','zalgi@yahoo.com','UM',0193472431,'ethic');
insert into participant	values(112,'fatima','naqib','fatimah@gmail.com','IIUM',0182320472,'social media');
insert into participant	values(115,'ahmad','mehran','ahmad@yahoo.com','UM',0111431472,'technology');
insert into participant	values(118,'sharifa','wahaj','sharifa@yahoo.com','USIM',0182232043,'network');
insert into participant	values(121,'hadis','ahmadzai','ahmadzai@gmail.com','IIUM',0112745291,'social media');
insert into participant	values(124,'wajiha','arman','arman15@hotmail.com','UKM',0130977243,'technology');
insert into participant	

```
values(127,'ahmad','mehran','ahmad@yahoo.com','UM',0111431472,'business');
insert into participant
values(130,'wajiha','arman','arman15@hotmail.com','UKM',0130977243,'social media');
```

```
insert into registration values(05,'15-JAN-15',00543,103);
insert into registration values(31,'10-JAN-15',00753,112);
insert into registration values(12,'01-JAN-15',00842,121);
insert into registration values(15,'09-JAN-15',00123,127);
insert into registration values(02,'22-JAN-15',00321,109);
insert into registration values(17,'20-JAN-15',00541,112);
insert into registration values(11,'11-JAN-15',00513,100);
insert into registration values(14,'05-JAN-15',00232,106);
insert into registration values(04,'03-JAN-15',00386,115);
insert into registration values(01,'12-JAN-15',00137,118);
insert into registration values(06,'24-JAN-15',00569,109);
insert into registration values(09,'17-JAN-15',00627,127);
insert into registration values(03,'20-JAN-15',00569,103);
insert into registration values(07,'15-JAN-15',00627,109);
```

```
insert into judge values(01,'khan','IIUM','poster','business');
insert into judge values(02,'nabil','UM','product','social media');
insert into judge values(03,'eraj','UITM','poster','technology');
insert into judge values(04,'zalgi','UKM','product','learning styles');
insert into judge values(05,'Gulkhan','USIM','poster','music effect ');
insert into judge values(06,'ahmad','IIUM','product','classical piano');
insert into judge values(07,'fatima','IIUM','product','social media');
insert into judge values(08,'vali','USIM','poster','network');
insert into judge values(09,'ali','UM','poster','ethic');
```

```
insert into winner values ('a123',100,'gold',95,'first');
insert into winner values ('a155',112,'gold',100,'first');
insert into winner values ('c164',118,'silver',85,'second');
insert into winner values ('d145',109,'bronze',64,'third');
insert into winner values ('c128',127,'silver',87,'second');
insert into winner values ('e131',106,'silver',75,'second');
insert into winner values ('f131',121,'gold',98,'first');
insert into winner values ('d173',124,'bronze',63,'third');
insert into winner values ('g153',115,'silver',76,'second');
insert into winner values ('c128',103,'gold',99,'first');
```

5. Create Sequences

```
create sequence judge_no_seq  
maxvalue 100  
start with 10  
increment by 1  
cycle;  
insert into judge values(judge_no_seq.nextval, 'mattin','UKM','product','art');
```

```
create sequence participant_id_seq  
maxvalue 600  
start with 133  
increment by 3  
cycle;  
insert into participant values(participant_id_seq.nextval,'sajeda','ahmadi','ahmadi@yahoo.com',  
'TIUM',0111287475,'art');
```

SQL Queries:

- Show the participants, registrations, and judges' assignments. Show ONLY the participant ID and name, track option, research title, and judges' names.

Select p.prt_id ,p.prt_fname"prt names", r.pr_track"track option", r.pr_title"research title",j.j_name"judge names"

From participant p, registration rg, research_project r, judge j

Where p.prt_id=rg.prt_id AND p.title=j.title AND p.title=r.pr_title ORDER BY prt_id;

```
SQL> Select  p.prt_id ,p.prt_fname"prt names", r.pr_track"track option", r.pr_title"research title",j.j_name"judge names"
2  From participant p, registration rg, research_project r, judge j
3  Where p.prt_id=rg.prt_id
4  AND p.title=j.title
5  AND p.title=r.pr_title
6  ORDER BY prt_id;
```

PRT_ID	prt names	track option	research title	judge name
100	shafullah	innovation	learning styles	zalgi
103	nagina	music	classical piano	ahmad
103	nagina	music	classical piano	ahmad
106	ziba	tv sound	music effect	Gulkhan
109	zabiullah	effect	ethic	ali
109	zabiullah	effect	ethic	ali
109	zabiullah	effect	ethic	ali
112	fatima	creativity	social media	fatima
112	fatima	creativity	social media	nabil
112	fatima	creativity	social media	fatima
112	fatima	creativity	social media	nabil
115	zaki	innovation	technology	eraj
118	sharifa	innovation	network	vali
121	hadis	creativity	social media	fatima
121	hadis	creativity	social media	nabil
127	ahmad	innovation	business	khan
127	ahmad	innovation	business	khan

17 rows selected.

- Find the sum of payments paid by each University including IIUM.

select university, sum(amount) "Payment paid each university" from payment group by university;

```
SQL> select university, sum(amount)"Payment paid each university" from payment group by university;
```

UNIVERSI	Payment paid each university
UKM	26250
USIM	23500
UM	21605
IIUM	49610
UTM	25800

- c. Show details of participant who have made more than two (2) registration at any time.

Select prt_id, prt_university, title, prt_num "Prt who register more than 2"

From participant p, (select prt_fname, count(*) prt_num From participant group by prt_fname) pr
Where p.prt_fname=pr.prt_fname AND prt_num >=2 ORDER BY prt_id;

```
SQL> Select prt_id, prt_university, title, prt_num "Prt who register more than 2"
2   From participant p, (select prt_fname, count(*) prt_num
3   From participant group by prt_fname) pr
4   Where p.prt_fname=pr.prt_fname AND prt_num >=2
5   ORDER BY prt_id;
```

PRT_ID	PRT_UNIVER	TITLE	Prt who register more than 2
106	UKM	music effect	3
115	UM	technology	2
124	UKM	technology	3
127	UM	business	2
130	UKM	social media	3

- d. Find the registration with its affiliation that has the MOST bookings at any time and between IIUM and other researchers from different Universities.

PL/SQL Scripts

Create Functions Anonymous block

```
CREATE OR REPLACE FUNCTION pay
(id IN payment.pay_id%TYPE,
uni IN payment.university%TYPE )
RETURN varchar2
AS
v_pay varchar2(100);
BEGIN
IF uni = 'IIUM' THEN v_pay:= ' IIUM No need To Pay';
ELSE v_pay:= 'Out Of IIUM Need to pay';
END IF;
RETURN v_pay;
END pay;
/

SET VERIFY OFF
SET SERVEROUT ON
ACCEPT id PROMPT 'Enter the Payment Code : '
DECLARE
v_pay varchar2(100);
v_uni payment.university%TYPE;
BEGIN
select university into v_uni from payment where pay_id=&id;
```



```

v_pay := pay('&id',v_uni);
DBMS_OUTPUT.put_line ('The Prticipents from '||v_pay);
END;
/

```

```

SQL> @G:\project\pay.sql
Function created.

SQL> @G:\project\payb.sql
Enter the Payment Code : 00543
The Prticipents from unoversity of IIUM No need To Pay

PL/SQL procedure successfully completed.

SQL> @G:\project\payb.sql
Enter the Payment Code : 00753
The Prticipents from unoversity of UKM Need to pay

PL/SQL procedure successfully completed.

SQL>

```

```

CREATE OR REPLACE FUNCTION get_judge_assign
(id IN number)
RETURN varchar2
IS
assign varchar2(10);
BEGIN
Select j_assignment into assign from judge where j_id=id;
DBMS_OUTPUT.PUT_LINE('The judge with ID ' || id || ' is from university of ' || assign);
RETURN (assign);
END get_judge_assign;
/

```

```

SET VERIFY OFF
SET SERVEROUT ON
ACCEPT id PROMPT 'Enter judge id to view that from which university is : '
DECLARE
v_ass judge.j_assignment%TYPE;
BEGIN
v_ass:=get_judge_assign(&id);
END;
/

```

```

SQL>
SQL> @G:\project\getjudgeuni.sql
Function created.

SQL> @G:\project\getjudgeunib.sql
Enter judge id to view that from which university is : 03
The judge with ID 3 is from university of UTM

PL/SQL procedure successfully completed.

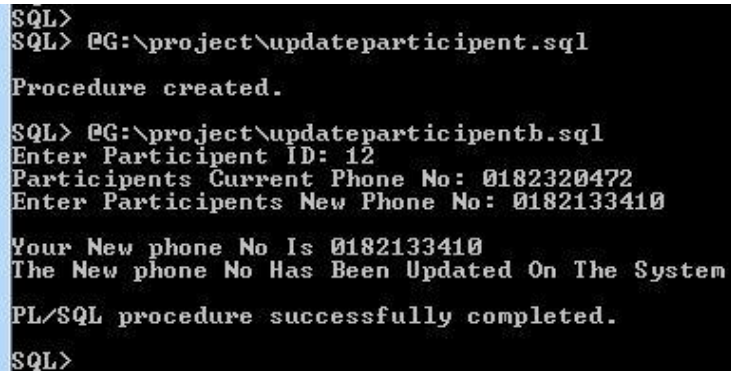
SQL>
SQL>

```

Create Procedures anonymous block

```
create or replace procedure Update_participant
(id IN participant.prt_id%TYPE,
phone IN participant.prt_phoneNo%TYPE,
new IN varchar2)
IS
BEGIN
Update participant SET prt_phoneNo= new Where prt_id = id;
END Update_participant;
/

SET SERVEROUTPUT ON
SET verify OFF
ACCEPT id PROMPT 'Enter Participant ID: '
--12
ACCEPT phone PROMPT 'Participants Current Phone No: '
--0182320472
ACCEPT new PROMPT 'Enter Participants New Phone No: '
--0182133410
Declare v_phone varchar2(10);
v_new varchar2(10);
BEGIN v_phone := '&phone';
v_new := '&new';
Update_participant('&id',v_phone , v_new); v_phone := v_new;
DBMS_OUTPUT.PUT_LINE('
Your New phone No Is ' || v_phone);
DBMS_OUTPUT.PUT_LINE('The New phone No Has Been Updated On The System');
END;
/
```



```
SQL>
SQL> @G:\project\updateparticipant.sql

Procedure created.

SQL> @G:\project\updateparticipantb.sql
Enter Participant ID: 12
Participants Current Phone No: 0182320472
Enter Participants New Phone No: 0182133410

Your New phone No Is 0182133410
The New phone No Has Been Updated On The System

PL/SQL procedure successfully completed.
SQL>
```

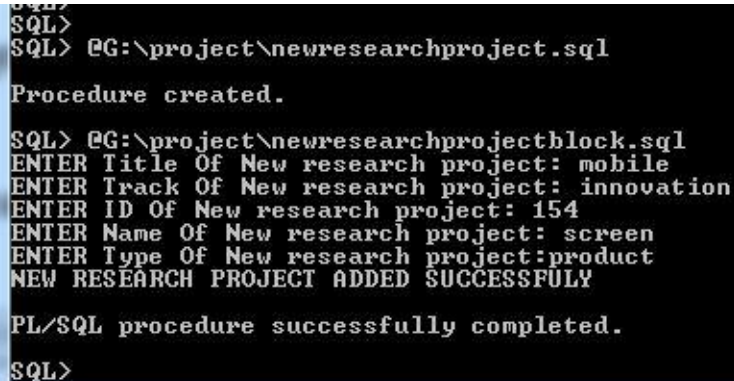
```
create or replace procedure newresearchproject
(title IN research_project.pr_title%TYPE,
track IN research_project.pr_track%TYPE,
```

```

id IN research_project.pr_id%TYPE,
name IN research_project.pr_name%TYPE,
type IN research_project.pr_type%TYPE)
AS
BEGIN
INSERT INTO research_project(pr_title,pr_track,pr_id , pr_name,pr_type)
VALUES(title,track,id,name,type);
END newresearchproject;
/

SET verify OFF
ACCEPT title PROMPT 'ENTER Title Of New research project: '
ACCEPT track PROMPT 'ENTER Track Of New research project: '
ACCEPT id PROMPT 'ENTER ID Of New research project: '
ACCEPT name PROMPT 'ENTER Name Of New research project: '
ACCEPT type PROMPT 'ENTER Type Of New research project:'
BEGIN
newresearchproject('&title','&track','&id','&name','&type');
DBMS_OUTPUT.PUT_LINE('NEW RESEARCH PROJECT ADDED SUCCESSFULLY');
END;
/

```



```

SQL>
SQL>
SQL> @G:\project\newresearchproject.sql

Procedure created.

SQL> @G:\project\newresearchprojectblock.sql
ENTER Title Of New research project: mobile
ENTER Track Of New research project: innovation
ENTER ID Of New research project: 154
ENTER Name Of New research project: screen
ENTER Type Of New research project:product
NEW RESEARCH PROJECT ADDED SUCCESSFULLY

PL/SQL procedure successfully completed.
SQL>

```