

1.

(a)

```
mysql> SELECT * FROM University LIMIT 1 OFFSET 10 ;
```

StuID	Course	Percent	Symbol	Credits	Senior	Science
1002	STA1	65	2-	18	N	Y

1 row in set (0.00 sec)

(b)

```
mysql> SELECT * FROM Matric LIMIT 1 OFFSET 10 ;
```

StuID	Prefix	FirstName	LastName	Gender	Citizenship_Status	SchoolName	SchoolCode	Year_of_Exams	ExaminingAuthority	OldExAuth	UCTScore
1011	Mr	Alison	Wickham	M	F	Dominican Convent H S (Bulaway	1001103	2006			0

2.

(a)

```
mysql> SELECT COUNT(*) FROM Matric;
```

COUNT(*)
521

1 row in set (0.00 sec)

(b)

```
mysql> SELECT COUNT(*) FROM University;
```

COUNT(*)
521

3.

```
mysql> SELECT * FROM Matric WHERE Prefix = "Mr" AND Gender = "F" OR Prefix = "Miss" AND Gender = "M";
```

Empty set (0.00 sec)

4.

```
mysql> SELECT FirstName, LastName FROM Matric WHERE SchoolCode = 1000929 ORDER BY LastName ASC;
```

```
+-----+-----+
| FirstName | LastName |
+-----+-----+
| Sophy    | Cooper   |
| Beth     | Turner   |
+-----+-----+
```

5.

```
mysql> SELECT DISTINCT Course, Credits/3 as "Units" FROM University;
```

```
+-----+-----+
| Course | Units |
+-----+-----+
| ACCS1  | 6.0000 |
| CS1    | 6.0000 |
| ECO1   | 6.0000 |
| MAM1   | 6.0000 |
| PSY1   | 12.0000 |
| STA1   | 6.0000 |
| ZOO1   | 6.0000 |
| BUS1   | 6.0000 |
| CS2    | 8.0000 |
| ACCS2  | 6.0000 |
| ECO2   | 6.0000 |
| MAM2   | 8.0000 |
| PSY2   | 8.0000 |
| STA2   | 8.0000 |
| CS3    | 12.0000 |
| ECO3   | 6.0000 |
| GAM1   | 8.0000 |
| GAM2   | 12.0000 |
| MAM3   | 12.0000 |
| STA3   | 12.0000 |
| ACCS3  | 6.0000 |
| BUS3   | 6.0000 |
| ZOO3   | 12.0000 |
+-----+-----+
```

6.

```
mysql> SELECT FIRSTNAME, LASTNAME FROM Matric Where Citizenship_Status = 'C' AND ExaminingAuthority = "" AND OldExAuth = " AND UCTScore = "";
```

```
+-----+-----+
| FIRSTNAME | LASTNAME |
+-----+-----+
| Lauren    | Masendu  |
| Thulani   | Baxter   |
+-----+-----+
```

7.

```
mysql> SELECT StuID FROM University WHERE Course = "ACCS1" UNION SELECT StuID  
FROM University WHERE Course = 'ZOO3';
```

```
+-----+  
| StuID |  
+-----+  
| 1001 |  
| 1003 |  
| 1006 |  
| 1009 |  
| 1012 |  
| 1014 |  
| 1018 |  
| 1020 |  
| 1023 |  
| 1026 |  
| 1029 |  
| 1031 |  
| 1035 |  
| 1037 |  
| 1040 |  
| 1043 |  
| 1046 |  
| 1048 |  
| 1052 |  
| 1054 |  
| 1057 |  
| 1060 |  
| 1063 |  
| 1066 |  
| 1070 |  
| 1074 |  
| 1079 |  
| 1082 |  
| 1084 |  
| 1017 |  
| 1034 |  
| 1051 |  
| 1069 |  
| 1073 |  
| 1077 |  
| 1087 |  
+-----+
```

36 rows in set (0.00 sec)

8.

```
mysql> SELECT StuID, Course, MAX(CAST(Percent AS SIGNED)) AS "Highest Mark" FROM  
University;
```

```
+-----+-----+-----+  
| StuID | Course | Highest Mark |
```

```
+-----+-----+-----+
| 1001 | ACCS1 |      88 |
+-----+-----+-----+
1 row in set, 12 warnings (0.00 sec)
```

9.

```
mysql> SELECT COUNT(*) Number_of_marks_less FROM University where Percent < SOME
(select Percent FROM University Where StuID = "1027");
```

```
+-----+
| Number_of_marks_less |
+-----+
|          502 |
+-----+
```

10.

```
mysql> SELECT COUNT(DISTINCT Symbol) as 'Distinct Values' FROM University;
```

```
+-----+
| Distinct Values |
+-----+
|          7 |
+-----+
```

11.

```
mysql> SELECT AVG(Percent) FROM University;
```

```
+-----+
| AVG(Percent) |
+-----+
| 61.71401151631478 |
+-----+
```

12.

```
mysql> SELECT Course,MAX(CAST(Percent AS SIGNED)) AS MAXIMUM,
MIN(CAST(Percent AS SIGNED)) as MINIMUM FROM University WHERE Course
IN("CS1","CS2","CS3") GROUP BY Course;
```

```
+-----+-----+-----+
| Course | MAXIMUM | MINIMUM |
+-----+-----+-----+
| CS1   |      88 |       0 |
| CS2   |      75 |       0 |
| CS3   |      75 |      40 |
+-----+-----+-----+
```

13.

```
mysql> SELECT MAX(CAST(UCTScore AS SIGNED)) AS Maximum_Score,Year_of_Exams
FROM Matric GROUP BY Year_of_Exams HAVING COUNT(*) > 10;
```

```
+-----+-----+
| Maximum_Score | Year_of_Exams |
+-----+-----+
|          46 |         2003 |
|          50 |         2004 |
```

48	2005
50	2006

14.

This query is not the same as in the assignment. I cannot shows the courses with the least amount of failures. But I showed the amount of 'F' obtained for each subject.

```
mysql> SELECT Course,COUNT(*) FROM University WHERE Symbol ="F" GROUP BY Course
ORDER BY COUNT(*) ;
```

Course	COUNT(*)
CS3	1
ECO1	1
MAM2	1
ACCS3	1
CS1	1
ACCS2	1
PSY1	1
STA3	1
STA2	2
ACCS1	2
GAM2	2
MAM1	3
BUS1	3
MAM3	3

14 rows in set (0.00 sec)

15.

This query is not the same as in the assignment. I could not find the senior courses passed using my query. I could not understand what was wrong with it. My query shows the number of senior courses passed by each student.

```
SELECT COUNT(StuID),StuID FROM University WHERE Senior ='Y' AND Percent != "DPR" or
"F" IN (SELECT StuID FROM University WHERE Course = 'PSY2') group by StuID ORDER BY
StuID;
```

COUNT(StuID)	StuID
1	1001
1	1003
6	1004
6	1005
4	1006
3	1009
6	1010

6	1011
2	1012
5	1015
5	1016
6	1017
1	1020
6	1021
6	1022
4	1023
3	1026
6	1027
6	1028
2	1029
5	1032
6	1033
6	1034
1	1037
6	1038
6	1039
4	1040
3	1043
6	1044
6	1045
2	1046
5	1049
6	1050
6	1051
1	1054
6	1055
6	1056
4	1057
3	1060
6	1061
6	1062
3	1063
4	1066
6	1067
6	1068
1	1069
2	1070
6	1071
6	1072
3	1073
6	1075
6	1076
5	1077
4	1079
6	1080
6	1081
1	1082
6	1085
6	1086

```
|      5 | 1087 |
+-----+-----+
60 rows in set (0.05 sec)
```

16.

Find total number of courses not passed(i.e Symbol 'F' or 'DPR').

```
mysql> SELECT COUNT(*) as Number_of_Failures FROM University where Symbol = "F" OR
"DPR";
```

```
+-----+
| Number_of_Failures |
+-----+
|          23 |
+-----+
1 row in set, 1 warning (0.00 sec)
```

Explanation:

SELECT COUNT(*) will return the number of occurrences in the statement.

Where Symbol = "F" OR "DPR" is when the student has not passed the course.

The Number_of_Failures column will increase whenever a Course not passed is found.

17.

```
mysql> DELETE FROM Matric WHERE Year_of_Exams < 2000;
Query OK, 5 rows affected (0.02 sec)
```

Last lines of the table before deletion:

1510	Miss	Umr	Ariefdien	F	C	Newcastle High School
1003669		2002	KN	NA	36	
1511	Miss	Vuyisa	Arenz	F	C	Herzlia High School
1001753		2002	WC	CA	32	
1512	Mr	Waafiqah	Arendse	M	C	Diocesan College (Bishops)
1001080		2001	WC	CA	34	
1513	Miss	Warren	Arendse	F	C	Deutsche Schule Pretoria
1001038		2001	IE	TR	28	
1514	Miss	Waseema	Aranes	F	F	Chaplin School
1000780		2000			0	
1515	Miss	Wesley	Anthony	F	C	Herzlia High School
1001753		2000	WC	CA	45	
1516	Mr	Wesley	Aly	M	C	Paul Roos Gymnasium
1004048		2000	WC	CA	31	
1517	Mr	Wilhelm	Allen	M	F	Other - Africa
1003939		1999			0	
1518	Miss	Yaseen	Alexander	F	C	Pinelands High School
1004164		1999	WC	CA	46	
1519	Mr	Yashmita	Alexander	M	C	South Peninsula Senior Sec
Sch	1004909		1999	WC	CO	26
1520	Miss	Yiye	Albertus	F	C	Oranje Meisieskool
1003919		1997	FS	OF	43	

1521 Miss Yolanda Aitken F C Settlers High School
1004713 1995 WC CA 31

+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
521 rows in set (0.00 sec)

Last lines after deletion:

1500 Miss Thomas Bayo F C Immaculata Senior Secondary
Sc 1001958 2003 WC CO 24
1501 Miss Thulani Baxter F C Other - Zimbabwe
1003975 2003 0
1502 Miss Timothy Baxter F C Other - Asia
1003942 2003 FO 0
1503 Miss Toni-Lee Bassa F F St Johns High School
1005023 2002 0
1504 Miss Tove Bandah F F Other - Namibia
1003959 2002 SC 0
1505 Miss Tracy Bailey F F Other - Africa
1003939 2002 FO 0
1506 Miss Tremayne Awood F F Regina Mundi High School
1004414 2002 JM 0
1507 Mr Trevor Arnold M F Other - Zimbabwe
1003975 2002 0
1508 Ms Tshegofatso Armstrong F C Somerset College
1004890 2002 IE CA 42
1509 Mr Tsholofelo Armand M C Livingstone Senior
Secondary S 1002651 2002 WC CO 41
1510 Miss Umr Ariefdien F C Newcastle High School
1003669 2002 KN NA 36
1511 Miss Vuyisa Arenz F C Herzlia High School
1001753 2002 WC CA 32
1512 Mr Waafiqah Arendse M C Diocesan College (Bishops)
1001080 2001 WC CA 34
1513 Miss Warren Arendse F C Deutsche Schule Pretoria
1001038 2001 IE TR 28
1514 Miss Waseema Aranes F F Chaplin School
1000780 2000 0
1515 Miss Wesley Anthony F C Herzlia High School
1001753 2000 WC CA 45
1516 Mr Wesley Aly M C Paul Roos Gymnasium
1004048 2000 WC CA 31

+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
516 rows in set (0.00 sec)

18. Last lines in table after insertion:

1086	STA3	68	2-	36	Y	Y	
1087	ACCS3	50	3	18	Y	N	
1087	BUS3	66	2-	18	Y	N	
1087	ECO3	62	2-	18	Y	N	
1087	MAM3	76	1	36	Y	Y	
1087	ZOO3	64	2-	36	Y	Y	
1001	ZOO1	AB	AB	18	Y	N	

522 rows in set (0.00 sec)

19.

```
mysql> UPDATE Matric SET UCTScore = (UCTScore * 10) + 30 WHERE UCTScore != "";
```

First Few lines

StuID	Prefix	FirstName	LastName	Gender	Citizenship_Status	SchoolName
SchoolCode	Year_of_Exams	ExaminingAuthority	OldExAuth	UCTScore		
1001	Mr	Aaron	Zwillig	M	C	Private Candidate
1004249	2007		TR	370		
1002	Mr	Aarthi	Zulu	M	P	Crawford College
1000927	2006	GT	TR	510		
1003	Miss	Abeedah	Zowa	F	P	Parel Vallei High School
1004030	2006	WC	CA	450		
1004	Miss	Abigail	Zinn	F	F	St Cyprian's School
1004983	2006	WC	CA	420		
1005	Mr	Adrienne	Zide	M	F	Legae Academy(Mogoditshane)
1002532	2006			380		

Last Few lines

1505	Miss	Tracy	Bailey	F	F	Other - Africa
1003939	2002	FO		0		
1506	Miss	Tremayne	Awood	F	F	Regina Mundi High School
1004414	2002	JM		0		
1507	Mr	Trevor	Arnold	M	F	Other - Zimbabwe
1003975	2002			0		
1508	Ms	Tshegofatso	Armstrong	F	C	Somerset College
1004890	2002	IE	CA	450		
1509	Mr	Tsholofelo	Armand	M	C	Livingstone Senior
Secondary S	1002651	2002	WC	CO	440	
1510	Miss	Umr	Ariefdien	F	C	Newcastle High School
1003669	2002	KN	NA	390		
1511	Miss	Vuyisa	Arenz	F	C	Herzlia High School
1001753	2002	WC	CA	350		
1512	Mr	Waafiqah	Arendse	M	C	Diocesan College (Bishops)
1001080	2001	WC	CA	370		

1513 Miss Warren Arendse F C Deutsche Schule Pretoria
1001038 2001 IE TR 310
1514 Miss Waseema Aranes F F Chaplin School
1000780 2000 0
1515 Miss Wesley Anthony F C Herzlia High School
1001753 2000 WC CA 480
1516 Mr Wesley Aly M C Paul Roos Gymnasium
1004048 2000 WC CA 340

+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
516 rows in set (0.00 sec)