

Students					
SID	Name	Pet	wand	yearEntered	House
89373	Harry Potter	Hedwig	Phoenix	1991	Gryffindor
89323	Ron Weasley	Scrabbles	Unicorn	1991	Gryffindor
89273	Hermione Granger	Crookshanks	Dragon	1991	Gryffindor
98373	Ginny Weasley	Pygmy Puff	NULL	1992	Gryffindor
79371	Charlie Weasley	Scrabbles	Unicorn	1984	Gryffindor

Teachers					
TID	Name	wand	yearJoined	Subject	HouseHead
1234	Minerva McGongall	Dragon	1956	Transfiguration	Gryffindor
2345	Severus Snape	Dragon	1981	Potions	Slytherin
3456	Remus Lipin	Unicorn	1993	DADA	
4556	Pomona Sprout	NULL	1990	Herbology	Hufflepuff

Deed			
SID	Deed	Points	Date
89373	Not correcting a mistake Longbottom’s mistake	-1	<u>9/6/1991</u>
89323	For saving Hermione from the troll	+5	10/31/1991
89323	For saving Hermione from the troll	+5	10/21/1991

Subject
SubjectName
Transfiguration
Charms
Potions
DADA
Astronomy
Herbology
Flying
Muggle Studies

House		
House	Mascot	Colors
Gryffindor	Lion	scarlet and gold
Slytherin	badger	yellow and black
Ravenclaw	eagle	blue and bronze
Hufflepuff	serpent	green and silver

Enrollment			
SID	Subject	Grade	Year
89373	Transfiguration	B+	1991
89373	Potions	D-	1991
89373	Potions	D-	1992
89373	Potions	D-	1993
89273	Muggle Studies	A+++	1991
89273	Potions	A+	1991

1. Find the names of students who joined Hogwarts after 1985.

```
SELECT S.Name  
FROM Students S  
WHERE S.yearEntered > 1985
```

2. Find the number of students who joined Gryffindor in 1991.

```
SELECT S.Name  
FROM Students S  
WHERE S.yearEntered = 1991 AND S.house = 'Gryffindor'
```

3. List the number of students per house in the year 1991.

```
SELECT count(*)  
FROM Students S  
WHERE S.yearEntered = 1991  
GROUPBY S.house
```

3. Which house received more students in the year 1991, i.e. the house with the largest number of student enrollment in the in the year 1991.

```
SELECT MAX (studentCount) FROM (  
    SELECT count(*) AS studentCount  
    FROM Students S  
    WHERE S.yearEntered = 1991  
    GROUP BY S.house);
```

4. Find the names of persons who both attended and taught at Hogwarts (so assume a person can be listed in the student table and teacher table).

```
SELECT S.Name  
FROM Student S, Teacher T  
WHERE S.SID = T.SID;
```

5. Find the name of student(s) who has not been awarded any points.

```
SELECT S.Name  
FROM Student S  
WHERE S.SID NOT IN (SELECT D.SID FROM Deed D);
```

4. Find the total number of points for 'Hufflepuff'.

```
SELECT sum(D.Points)
FROM Student S, Deed D
WHERE S.SID = D.SID AND S.House= 'Hufflepuff';
```

5. Find the total number of points for 'Hufflepuff' in year 1991.

```
SELECT sum(D.Points)
FROM Student S, Deed D
WHERE S.SID = D.SID AND S.House= 'Hufflepuff' AND S.yearEntered = '1991';
```

6. How many students have taken the subject 'Potions' between 1990 and 1992.

```
SELECT count(*)
FROM Enrollment E
WHERE E.Subject = 'Potions' AND E.year >= 1990 AND E.year <= 1992;
```

7. How many students received an 'A' in 'Muggle Studies' in year 1991.

```
SELECT COUNT(*)  
FROM Enrollment E  
WHERE E.Subject = 'Muggle Studies' AND E.year = '1991' AND E.Grade like = 'A%'
```

8. Find the name of the student who has been awarded the most points for a given deed.

```
SELECT S.Name  
FROM Student S, Deed D  
WHERE S.SID = D.SID AND D.Points IN  
    (  
        SELECT MAX(D.points)  
        From Deed D);
```

9. Find the name of the student who has been awarded the most points (total points) while attending Hogwarts.

```
SELECT S.Name
FROM Student
WHERE S.SID IN
    (
        SELECT SUM(D.points) AS TotalPoints, D.SID
        FROM Deed D
        GROUP BY S.SID
        ORDER BY TotalPoints DESC LIMIT 1);
```

10. Find the names of the student who only been awarded > 20 points. Its ambiguous, does this mean sum or just an individual deed over 20 points. I assumed we are looking for students who have done a (1) deed that earned > 20 points.

```
SELECT S.Name
FROM Student S, Deed D
WHERE S.SID=D.SID AND D.Points > 20;
```

11. What is the avg number of points by house

```
SELECT S.House, AVG(D.Points)
FROM Student S, Deed D
WHERE S.SID=D.SID
GROUP BY S.House;
```

12. Find the total points obtained by each student, ordered in descending order of points.

```
SELECT S.SID, SUM(D.Points) AS Points
FROM Student S, Deed D
WHERE S.SID = D.SID
GROUP BY S.SID
ORDER BY Points DESC;
```