

Attempt

Using the appropriate SELECT statement to extract data from multiple tables

```

Question 07 Apr 2019 Updated
CREATE TABLE Students(
  Student_ID INTEGER
    PRIMARY KEY,
  Enrollment_Year DATE,
  Course_Current_Year VARCHAR(18),
  First_Name TEXT,
  Last_Name TEXT,
  Gender TEXT,
  Date_Of_Birth DATE,
  Email TEXT,
  CourseCode INTEGER
  References Courses(CourseCode)
);
    
```

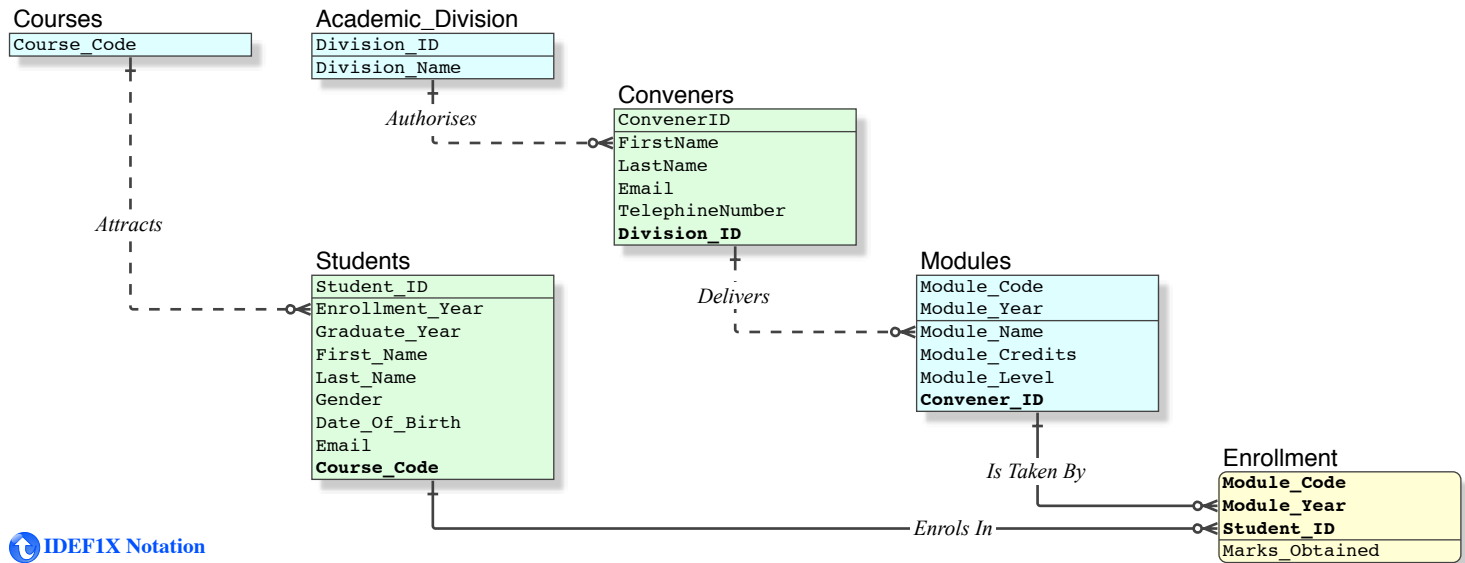
```

Question 07 Apr 2019
CREATE TABLE Modules (
  Module_Code INTEGER,
  Module_Year VARCHAR (8),
    PRIMARY KEY (Module_Code, Module_Year),
  Module_Name TEXT,
  Module_Credits INTEGER,
  Module_Level INTEGER,
  ConvenerID INTEGER
  REFERENCES Convener (ConvenerID)
);
    
```

```

Question 07 Apr 2019 Updated
CREATE TABLE Enrollment(
  Marks_Obtained INTEGER,
  Module_Code INTEGER
  REFERENCES Modules(Module_Code),
  Student_ID INTEGER
  REFERENCES Students(Student_ID),
  Program_Year_When_Enrolled TEXT,
  PRIMARY KEY(Module_Code, Student_ID)
);
    
```

Articulation



IDEFIX Notation

Solution

```

1 SELECT -- Student_ID, -- humans don't use numbers for identifiers
2     Last_Name,
3     First_Name,
4     Course_Code,
5     (SELECT AVG( Marks_Obtained ) -- CS.A
6     FROM Enrollment
7     WHERE Student_ID = S_OUTER.Student_ID
8     AND Module_Year = "Second"
9     GROUP BY Enrollment.Student_ID
10    ) AS Avg_2nd_Year_Marks,
11    (SELECT AVG( Marks_Obtained ) -- CS.B
12    FROM Enrollment
13    WHERE Student_ID = S_OUTER.Student_ID
14    AND Module_Year = "Third"
15    GROUP BY Enrollment.Student_ID
16    ) AS Avg_3rd_Year_Marks,
17    (SELECT AVG( Marks_Obtained ) -- CS.A / 3 * 1
18    FROM Enrollment
19    WHERE Student_ID = S_OUTER.Student_ID
20    AND Module_Year = "Second"
21    GROUP BY Enrollment.Student_ID
22    ) / 3 +
23    (SELECT AVG( Marks_Obtained ) -- CS.B / 3 * 2
24    FROM Enrollment
25    WHERE Student_ID = S_OUTER.Student_ID
26    AND Module_Year = "Third"
27    GROUP BY Enrollment.Student_ID
28    ) / 3 * 2 AS Overall_Marks
29 FROM Students S_OUTER
30 WHERE Graduate_Year = "2017" -- get current year using relevant date function
31 ORDER BY Last_Name, First_Name
    
```

- Data Model updated 08 Apr 2019.
- This is ANSI SQL compliant code (look it up).
- Now with the AS syntax instead of the = syntax.