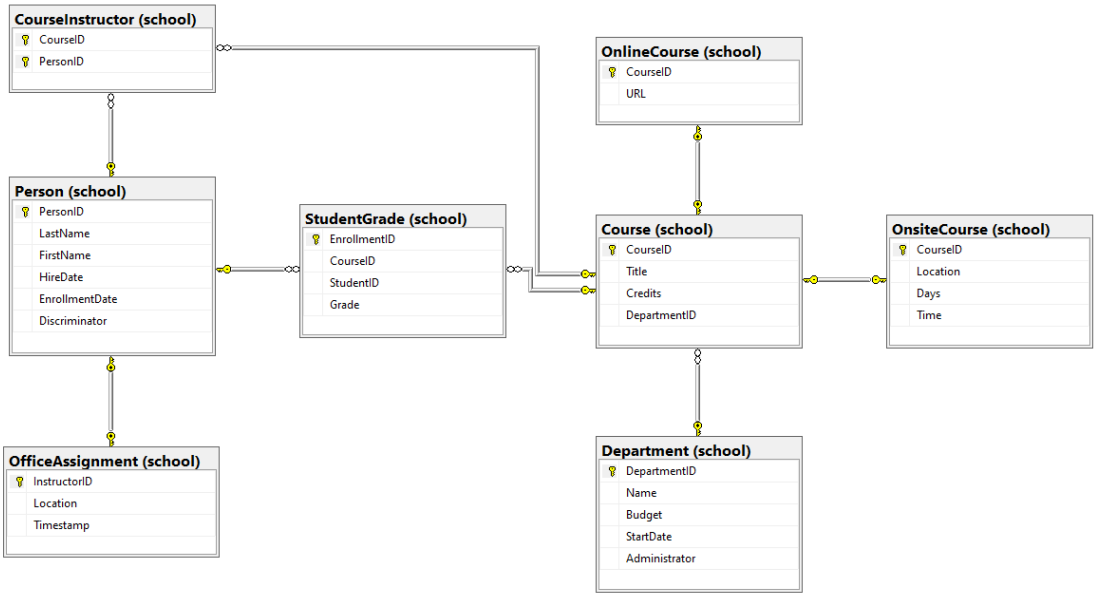
Esercizio SQL

Prendere in considerazione il database School rappresentato dal seguente diagramma



e scrivere le istruzioni SQL necessarie per estrarre le seguenti informazioni:

1. il budget medio dei dipartimenti

```
Select avg(Budget) as BudgetMedio from Department
```

	BudgetMedio
1	230000,00

2. i dipartimenti che hanno un budget superiore alla media

```
Select name,Budget from Department
Where Budget > (Select avg(Budget) as BudgetMedio from Department)
```

	name	Budget
1	Engineering	350000,00
2	Mathematics	250000,00

3. il dipartimento con il budget più alto

```
Select name,Budget from Department
Where Budget = (Select max(Budget) as BudgetMassimo from
Department)
```

	name	Budget
1	Engineering	350000,00

4. l'elenco dei dipendenti

```
Select LastName,FirstName,Discriminator from Person
where HireDate is not null
```

```
Select LastName,FirstName,Discriminator from Person
where Discriminator = 'Instructor'
```

	LastName	FirstName	Discriminator
1	Abercrombie	Kim	Instructor
2	Fakhouri	Fadi	Instructor
3	Harui	Roger	Instructor
4	Zheng	Roger	Instructor
5	Kapoor	Candace	Instructor
6	Serrano	Stacy	Instructor
7	Stewart	Jasmine	Instructor
8	Xu	Kristen	Instructor
9	Van Houten	Roger	Instructor

5. il numero di studenti

```
Select count(*)as NumeroStudenti from Person
where Discriminator = 'Student'
```

	NumeroStudenti
1	25

6. le persone che si chiamano Roger

```
Select * from person
where FirstName = 'Roger'
```

	PersonID	LastName	FirstName	HireDate	EnrollmentDate	Discriminator
1	5	Harui	Roger	1998-07-01 00:00:00.000	NULL	Instructor
2	18	Zheng	Roger	2004-02-12 00:00:00.000	NULL	Instructor
3	21	Holt	Roger	NULL	2004-09-01 00:00:00.000	Student
4	34	Van Houten	Roger	2000-12-07 00:00:00.000	NULL	Instructor

7. gli studenti che si chiamano Roger

```
Select * from person
where FirstName = 'Roger' and Discriminator = 'Student'
```

	PersonID	LastName	FirstName	HireDate	EnrollmentDate	Discriminator
1	21	Holt	Roger	NULL	2004-09-01 00:00:00.000	Student

8. l'elenco degli studenti in ordine alfabetico

```
Select LastName,FirstName,Discriminator from Person
where Discriminator = 'Student'
order by LastName
```

	LastName	FirstName	Discriminato
1	Alexander	Carson	Student
2	Alonso	Meredith	Student
3	Anand	Arturo	Student
4	Barzdukas	Gytis	Student
5	Browning	Meredith	Student
6	Bryant	Carson	Student
7	Carlson	Robyn	Student
8	Gao	Erica	Student
9	Griffin	Rachel	Student
10	Holt	Roger	Student
11	Jai	Damien	Student
12	Justice	Peggy	Student
13	Li	Yan	Student
14	Lopez	Sophia	Student
15	Martin	Randall	Student
16	Morgan	Isaiah	Student
17	Norman	Laura	Student
18	Olivotto	Nino	Student
19	Powell	Carson	Student

9. gli studenti che si sono iscritti nel 2000

```
Select FirstName,LastName from Person
where Year(EnrollnentDate) = '2000'
```

	FirstName	LastName
1	Meredith	Browning
2	Alexandra	Walker

10. il dipendente che ha l'anzianità più alta

11. i nomi dei corsi onsite

```
select Title from Course
inner join OnsiteCourse
on OnsiteCourse.CourseID = Course.CourseID
```

	Title
1	Calculus
2	Chemistry
3	Physics
4	Literature
5	Microeconomics
6	Quantitative

12. i nomi dei corsi online

```
select Title from Course
inner join OnlineCourse
```

```
on OnlineCourse.CourseID = Course.CourseID
```

	Title
1	Composition
2	Poetry
3	Trigonometry
4	Macroeconomics

13. il nomi dei corsi e i nomi dei dipartimenti di appartenenza

```
select Name,Title from Course
inner join Department
on Course.DepartmentID = Department.DepartmentID
```

	Name	Title
1	Mathematics	Calculus
2	Engineering	Chemistry
3	Engineering	Physics
4	English	Composition
5	English	Poetry
6	English	Literature
7	Mathematics	Trigonometry
8	Economics	Microeconomics
9	Economics	Macroeconomics
10	Economics	Quantitative

14. il numero di corsi per ogni dipartimento

```
select Name,count(*) as NumDip from Course
inner join Department
on Course.DepartmentID = Department.DepartmentID
group by Name
```

	Name	NumDip
1	Economics	3
2	Engineering	2
3	English	3
4	Mathematics	2

15. i dipartimenti con più di 3 corsi

```
select Name,count(*) as NumDip from Course
inner join Department
on Course.DepartmentID = Department.DepartmentID
group by Name,Department.ID
having count(*) >= 3
```

	Name	NumDip
1	Economics	3
2	English	3

16. il dipartimento con più corsi

```
select name, count(title) as totcorsi
from school.Course inner join school.Department
on school.Course.DepartmentID = school.Department.DepartmentID
group by name
having count(title) = (select max(totcorsi)
from (select name, count(title) as totcorsi from school.Course inner join school.Department
on school.Course.DepartmentID = school.Department.DepartmentID
group by name) as tot)
```

oppure:

```
view=
CREATE VIEW school.dep_courses2
AS
SELECT
   count(title) as totcorsi
FROM
   school.Course
INNER JOIN school.Department
      ON school.Course.DepartmentID = school.Department.DepartmentID
                  group by name;
```

select:

```
select * from school.dep_courses2
where totcorsi =(select max(totcorsi) from school.dep_courses2)
```