Landform Schema

```
create table Landform (
  id int primary key,
  name varchar(200) not null
);
create table Hill (
  id int primary key,
  foreign key(id) references Landform(id)
    on update cascade on delete cascade,
  height double not null,
  summitArea double,
  partOf int,
  foreign key(partOf) references Hill(id)
    on update cascade on delete cascade
);
create table Valley (
  id int primary key,
  foreign key(id) references Landform(id)
    on update cascade on delete cascade,
  area double not null
);
```

The JOINED strategy is used for subclasses.

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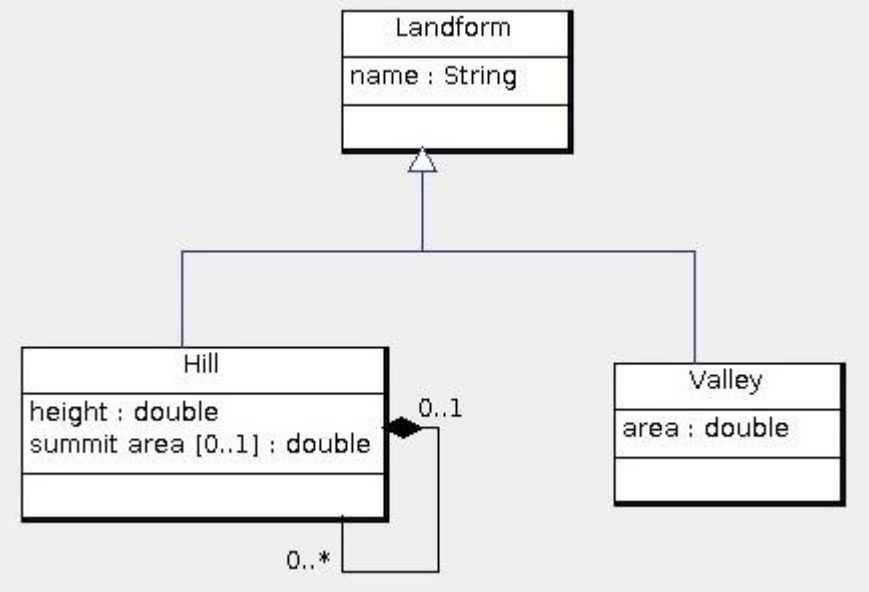

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Valley Query Problem

List the valleys by name whose area exceeds 600.

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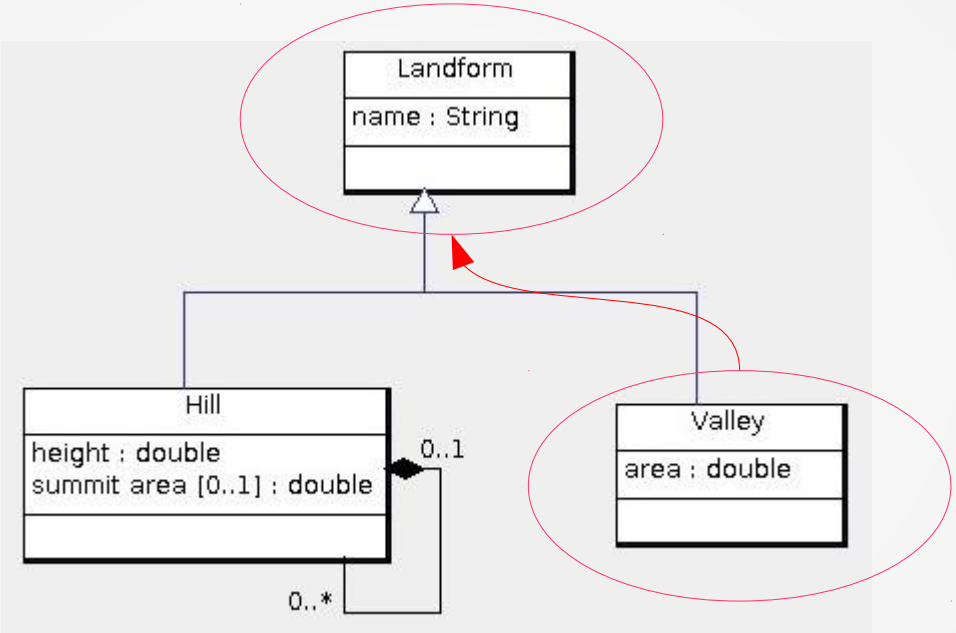

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Valley Query Solution Part 1

List the valleys by name whose area exceeds 600.

The name field is inherited by Valley from Landform. So it is necessary to join Valley with Landform.

```
select l.name
   from Valley v, Landform l
 where v.id = l.id
   and ...
```


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Valley Query Solution Part 2

List the valleys by name **whose area exceeds 600**.

```
select l.name
   from Valley v, Landform l
 where v.id = l.id
   and v.area > 600
```


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Hill Query Problem

List the hills by name that are part of a hill whose summit area exceeds 600.

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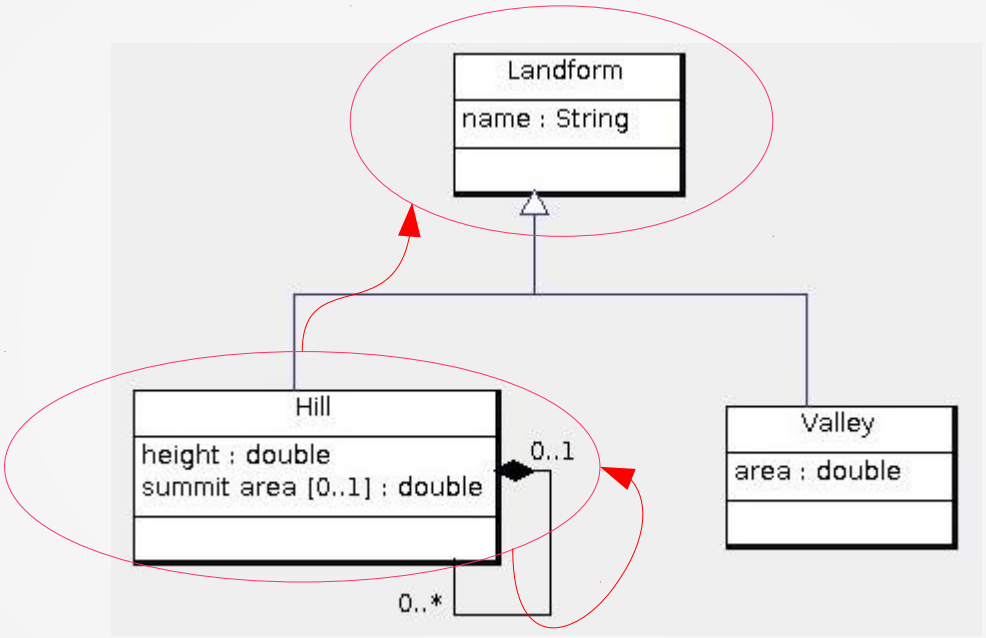

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Hill Query Solution Part 1

List the hills by name that are part of a hill whose summit area exceeds 600.

The name field is inherited by Hill from Landform. So it is necessary to join Hill with Landform.

```
select l.name
   from Hill h, Landform l
 where h.id = l.id
   and ...
```


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Hill Query Solution Part 2

List the hills by name **that are part of a hill** whose summit area exceeds 600.

The hill h is required to be part of *another hill.*

```
select l.name
   from Hill h, Landform l, Hill k
 where h.id = l.id
   and h.partOf = k.id
   and ...
```


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Hill Query Solution Part 3

List the hills by name that are part of a hill **whose summit area exceeds 600**.

The other hill has a summit area greater than 600.

```
select l.name
   from Hill h, Landform l, Hill k
 where h.id = l.id
   and h.partOf = k.id
   and k.summitArea > 600
```


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