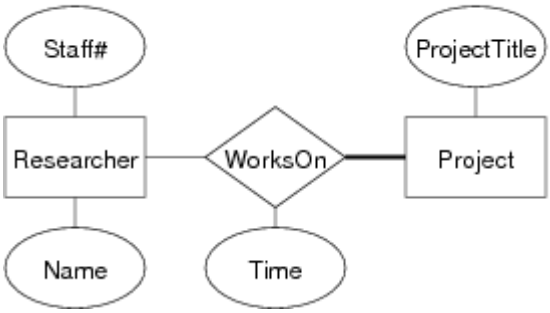
✔ You submitted a response to the quiz! Thanks! ×

Quiz #1 - ER and Relational Models (worth 2.5 marks and each question is worth equal marks)

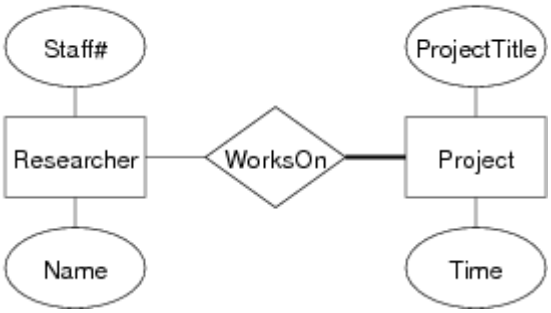
1.

Which of the following best describes the difference in the meaning of the following two ER diagrams (note: a thick line denotes total participation):

(i)



(ii)



○	In (i), every researcher must work on a project and we know exactly how much time each spends on that project. In (ii) every researcher works on a project, but we only know the total time for the project.
◉	In (i) every project must have some researchers and we know exactly how much time each researcher spends on each project they work on. In (ii) every project has some researchers working on it, but we only know the total time for the project.
○	In (i) every researcher works on one project and we know exactly how much time each researcher spends on the project they work on. In (ii) every researcher works on at least one project, and we know the total time they spend working on all of their projects.
○	In (i) every project must have some researchers and we know exactly how much time each researcher spends on each project they work on. In (ii) every project has some researchers working on it, and we know the total time each researcher spends working on all of their projects.
○	None of the other answers is correct.

2.

Which of the statements below best captures the semantics of this ER diagram:

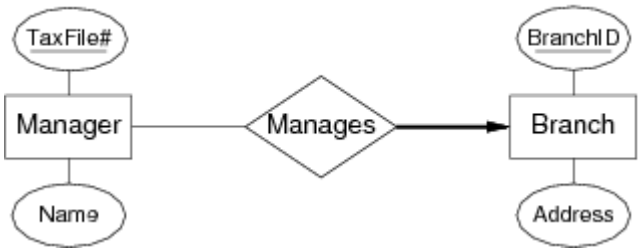
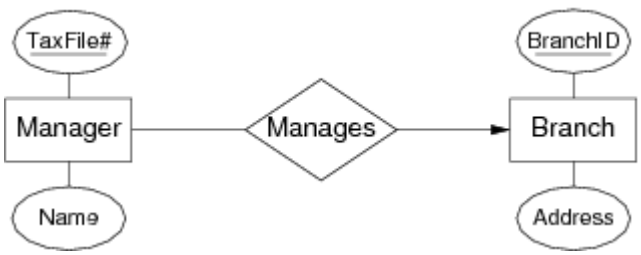
○	Every Flurf owns one Boggle; every Boggle is owned by a Flurf.
○	Every Flurf owns one or more Boggles; every Boggle is owned by a Flurf.
◉	Some Flurfs own one Boggle; every Boggle is owned by one or more Flurfs.
○	Some Flurfs own one or more Boggles; every Boggle is owned by one Flurf.
○	Some Flurfs own one Boggle; some Boggles are owned by a Flurf.
○	Some Flurfs own one Boggle; some Boggles are owned by one or more Flurfs.
○	None of the other answers is correct.

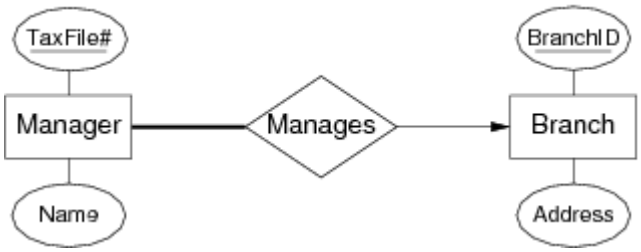
3.

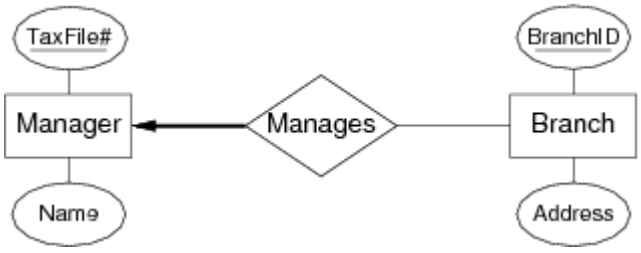
Which of the ER diagrams below most accurately implements the following banking scenario:

- **we record the name and tax file number for each manager**
- **we record the address and branch ID for each branch of the bank**
- **every manager is associated with one bank branch (the one they manage)**
- **not all branches have a manager, but some may have more than one manager**

Note that thick lines indicate total participartion and arrows indicate the 1 end of a 1:n relationship.

○	
○	

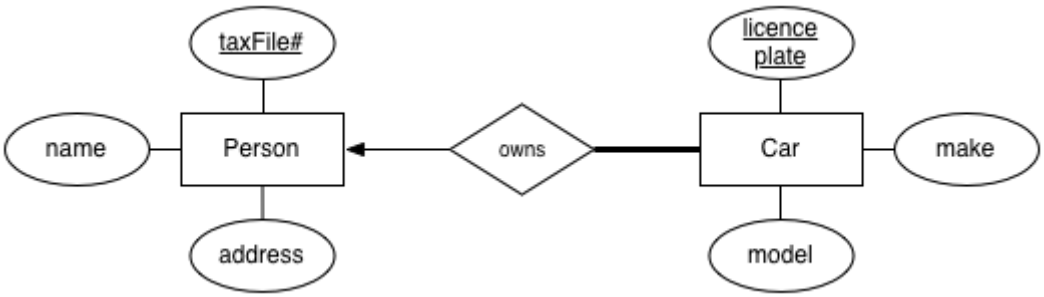




None of the other answers is correct.

4.

Which of the SQL schemas below most accurately captures the data model in the following diagram:



None of the other answers is correct.

```
create table Person (
      taxFileNum  integer primary key,
      name        varchar(100),
      address     varchar(200)
);
create table Car (
      licencePlate  char(8) primary key,
      make             varchar(50),
      model            varchar(50)
);
create table Owns (
      person       integer references Person(taxFileNum),
      car          char(8) references Car(licencePlate),
      primary key  (person,car)
);
```

```
create table Person (
     taxFileNum     integer primary key,
     name           varchar(100),
     address        varchar(200),
     car            char(8) not null references Car(licencePlate)
);
create table Car (
     licencePlate   char(8) primary key,
     make           varchar(50),
     model          varchar(50),
);
```

```
create table Person (
      taxFileNum    integer primary key,
      name          varchar(100),
      address       varchar(200),
      car           char(8) not null references Car(licencePlate)
);
create table Car (
      licencePlate  char(8) primary key,
      make          varchar(50),
      model         varchar(50),
      owner         integer not null references Person(taxFileNum)
);
```

```
create table Person (
      taxFileNum    integer primary key,
      name          varchar(100),
      address       varchar(200)
);
create table Car (
      licencePlate  char(8) primary key,
      make          varchar(50),
      model         varchar(50),
      owner         integer not null references Person(taxFileNum)
);
```