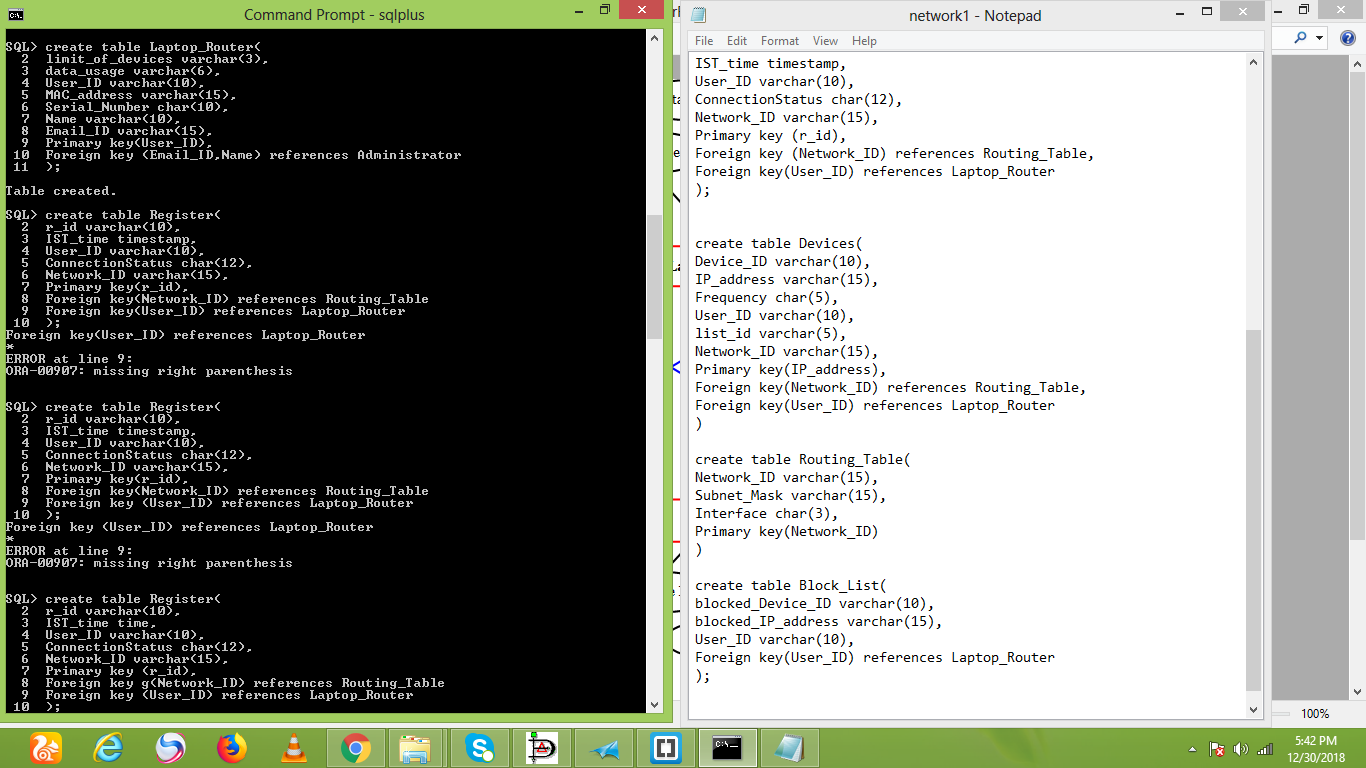
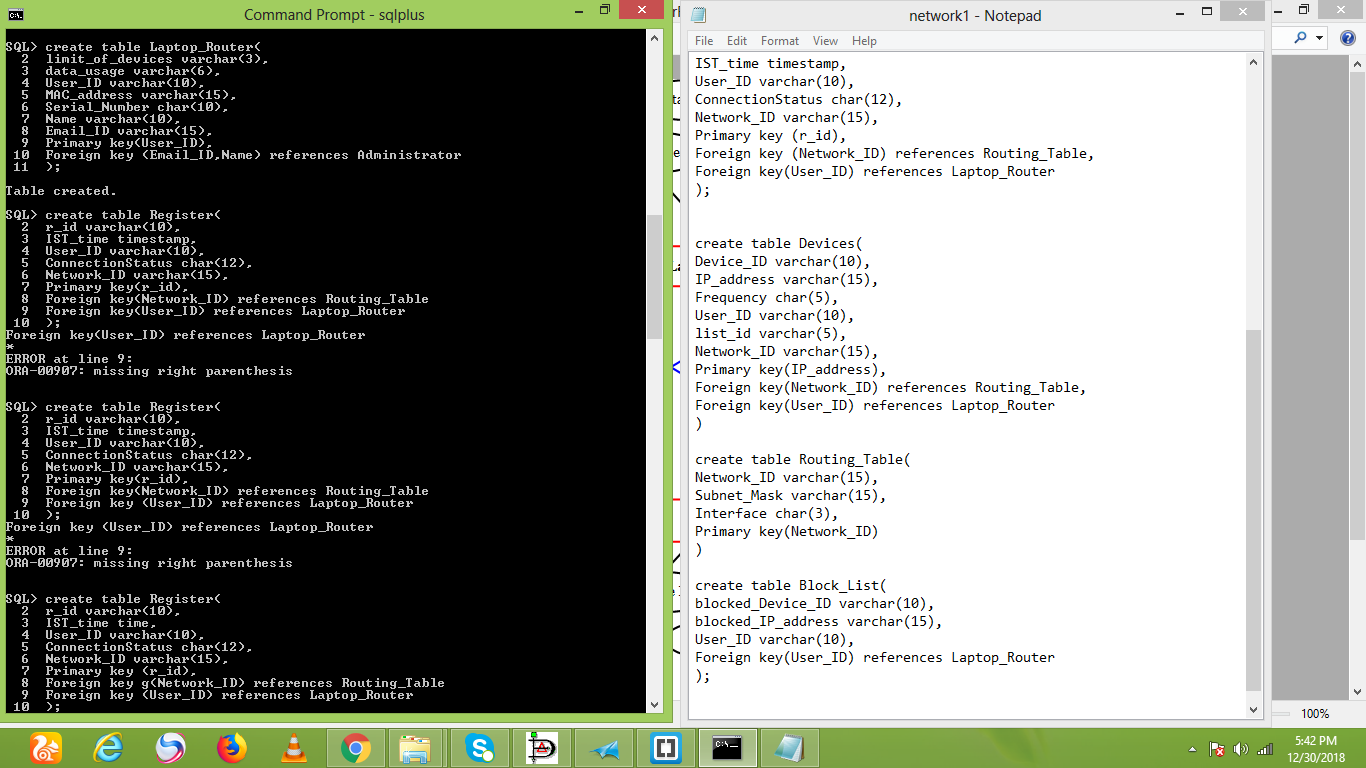
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ER Component | Type | Primary key | Related entity and their primary key | Corresponding relation schema |
| Screenshot (124).png | Strong entity | Email ID,Name | Laptop Router(User\_ID), Block List | create table Administrator(  Name varchar(10),  Email\_ID varchar(15),  Department char(5),  Residential\_details varchar(20),  Primary key(Email\_ID,Name)  ); |
| Screenshot (124).png | Strong entity | User\_ID | Administrator(Name,Email\_ID), Devices(IP address),  Register(r\_id) | create table Laptop\_Router(  limit\_of\_devices varchar(3),  data\_usage varchar(6),  User\_ID varchar(10),  MAC\_address varchar(15),  Serial\_Number char(10),  Name varchar(10),  Email\_ID varchar(15),  Primary key(User\_ID),  Foreign key (Email\_ID,Name) references Administrator); |
| Screenshot (124).png | Strong entity | r\_id | Laptop\_Router(User\_ID),  Devices(IP address),  Routing\_Table(Network\_ID) | create table Register(  r\_id varchar(10),  IST\_time timestamp,  User\_ID varchar(10),  ConnectionStatus char(12),  Network\_ID varchar(15),  Primary key (r\_id),  Foreign key (Network\_ID) references Routing\_Table,  Foreign key(User\_ID) references Laptop\_Router  ); |
| Screenshot (124).png | Weak entity | null | Devices(Device\_ID), Administrator(Name,Email\_ID) | create table Block\_List(  blocked\_Device\_ID varchar(10),  blocked\_IP\_address varchar(15),  User\_ID varchar(10),  Foreign key(User\_ID) references Laptop\_Router  ); |
| Screenshot (124).png | Strong entity | IP address | Block list,  Laptop\_Router(Network\_ID),  Register(r\_id),  Routing\_Table(Network\_ID) | create table Devices(  Device\_ID varchar(10),  IP\_address varchar(15),  Frequency char(5),  User\_ID varchar(10),  list\_id varchar(5),  Network\_ID varchar(15),  Primary key(IP\_address),  Foreign key(Network\_ID) references Routing\_Table,  Foreign key(User\_ID) references Laptop\_Router  ) |
| Screenshot (124).png | Strong entity | Network\_ID | Devices(Device\_ID),  Register | create table Routing\_Table(  Network\_ID varchar(15),  Subnet\_Mask varchar(15),  Interface char(3),  Primary key(Network\_ID)  ) |

I have included snapshots of SQL:

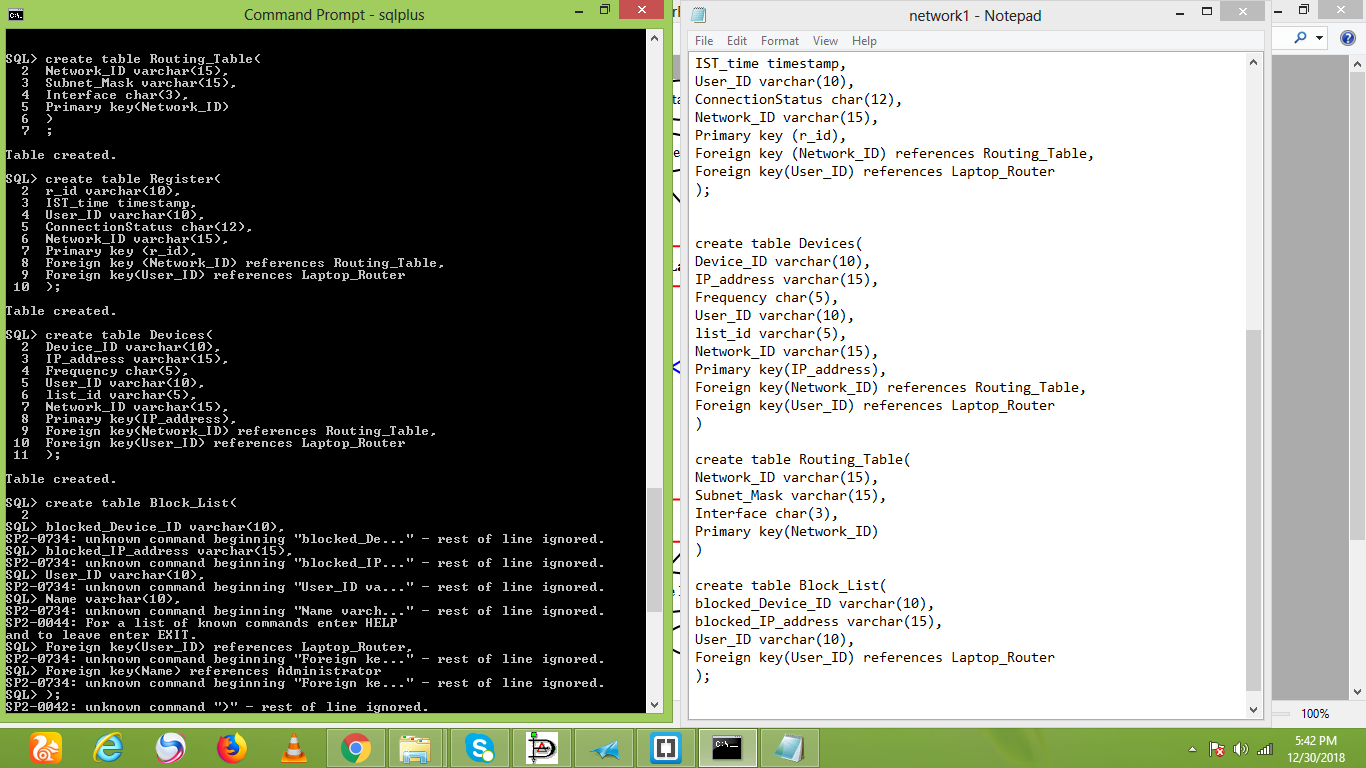
SNAPSHOT 1:



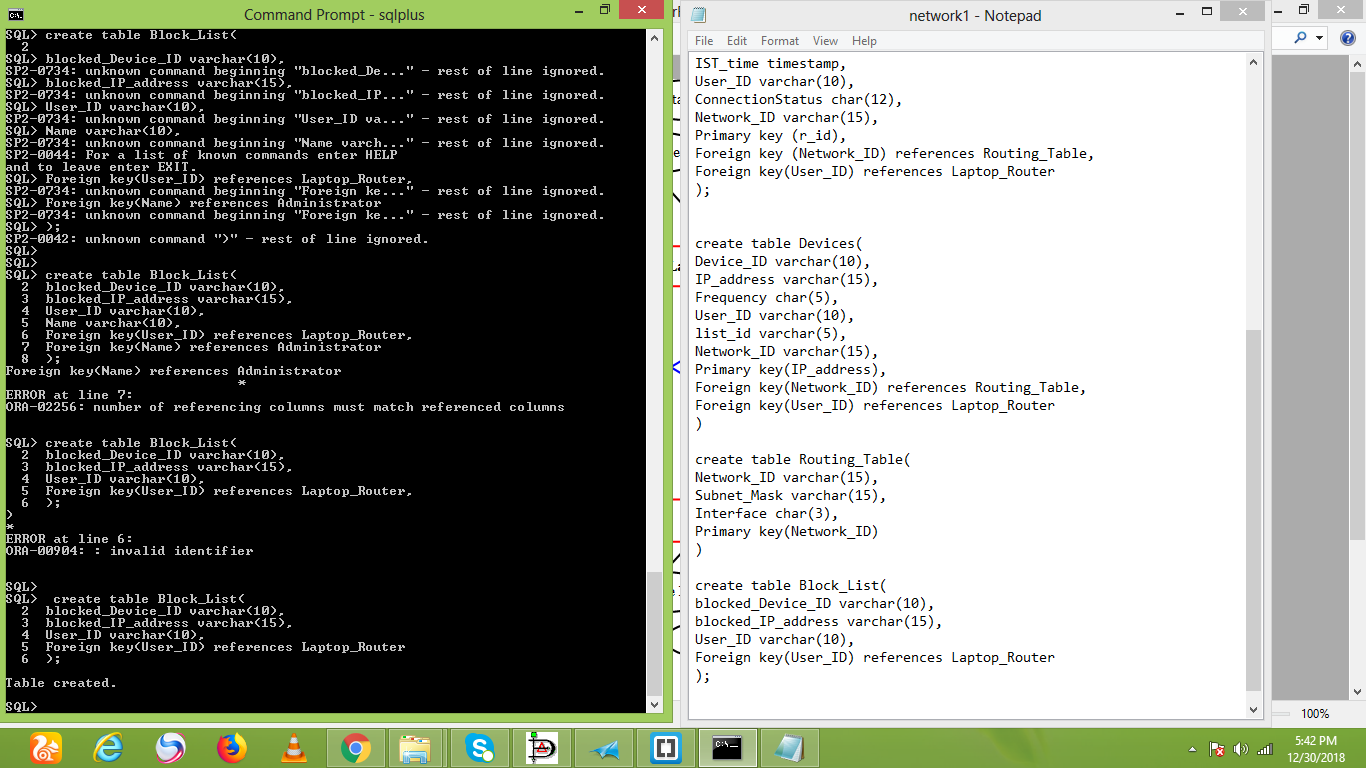
SNAPSHOT 2:



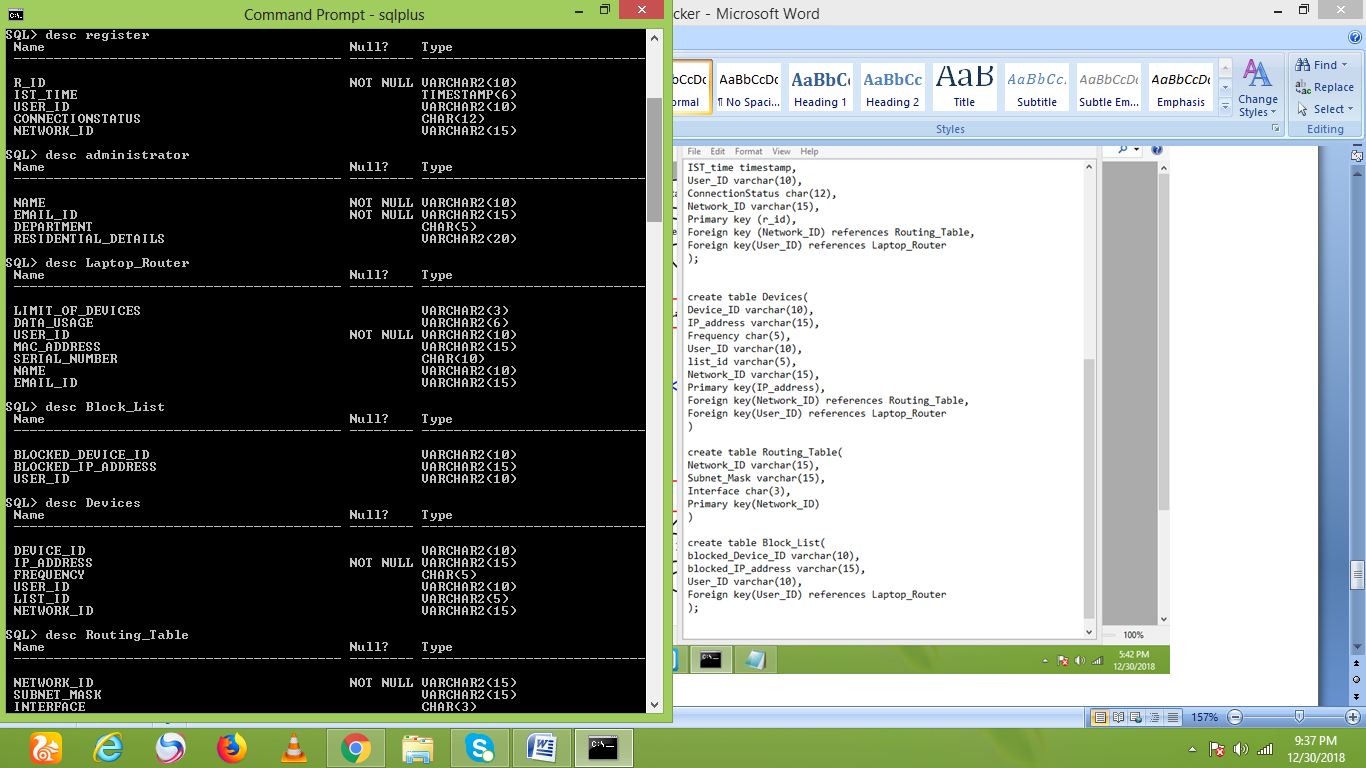
SNAPSHOT 3:



SNAPSHOT 4:



**REGISTER:**



The primary key of register is r\_id.

The network ID is the foreign key.

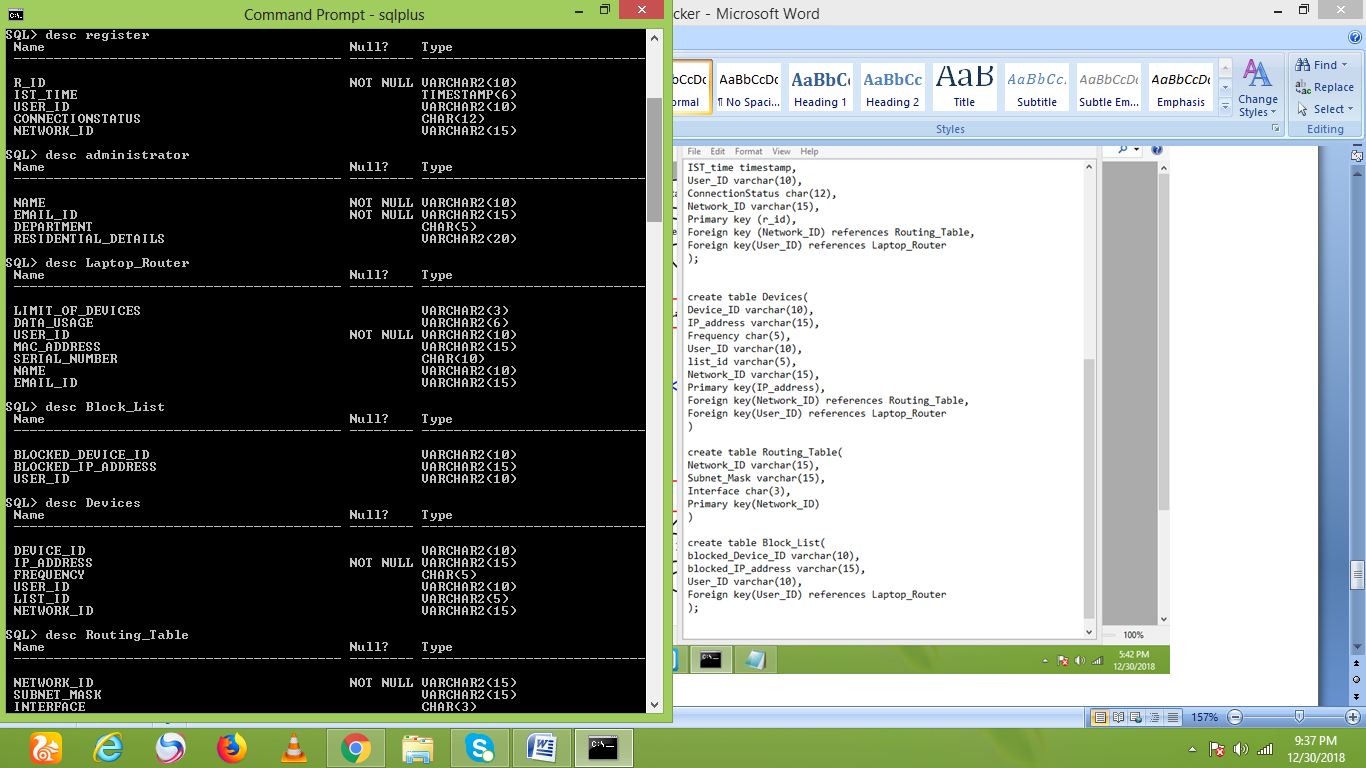
Cardinality:

1:n with devices.

1:1 with routing table.

1:1 with laptop router.

**ADMINISTRATOR:**



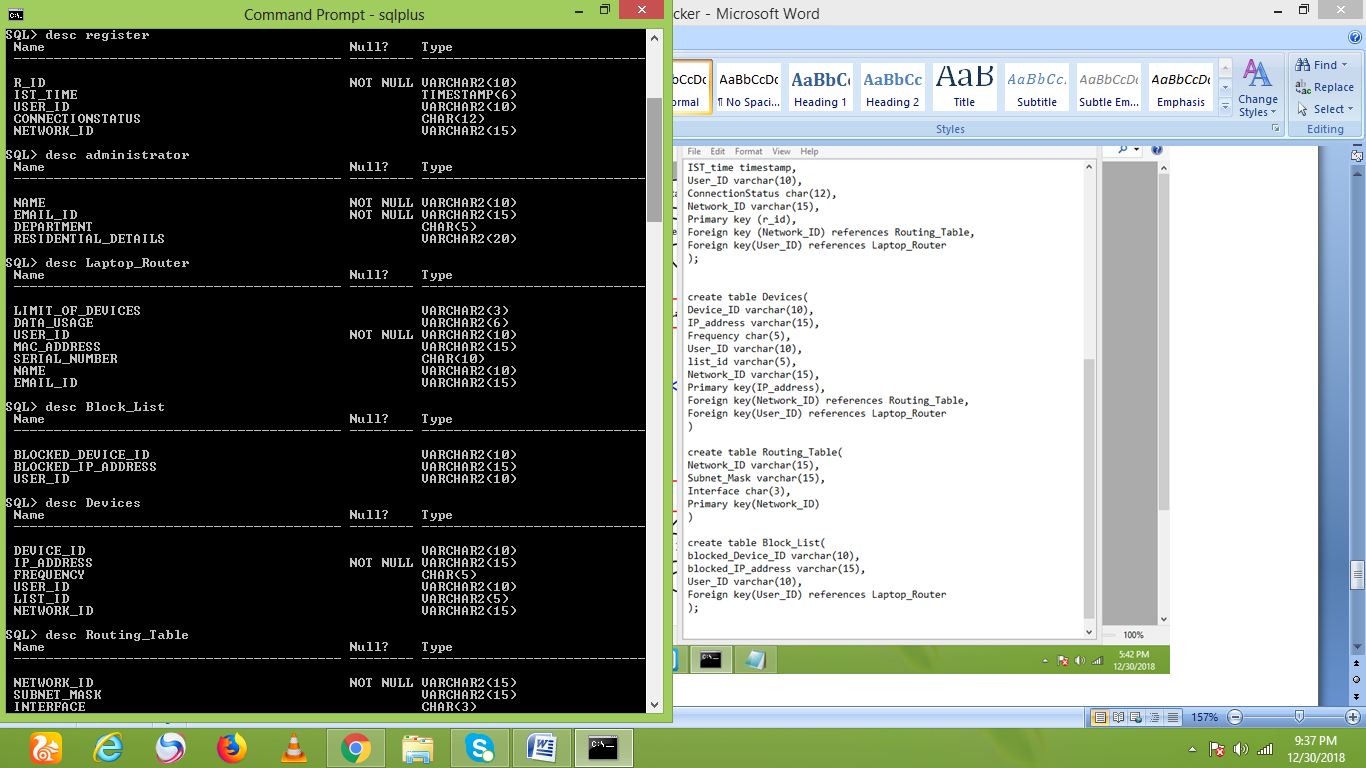
The primary key is name,email-id.

Cardinality:

1:1 Laptop Router.

1:1 with Block List.

**LAPTOP ROUTER:**



The primary key is User ID.

The Foreign key is Name, Email ID.

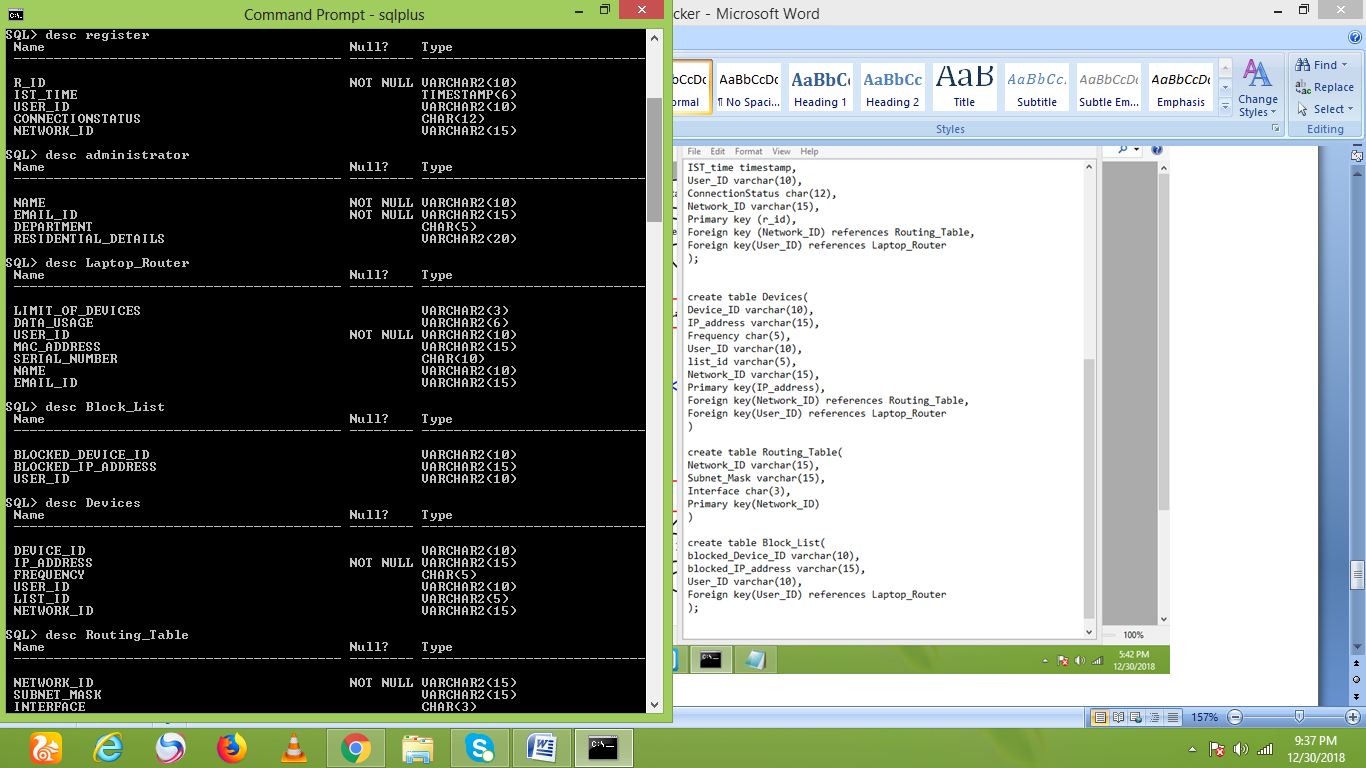
Cardinality:

1:1 with administrator.

1:n with devices.

1:1 with register.

**BLOCK LIST:**



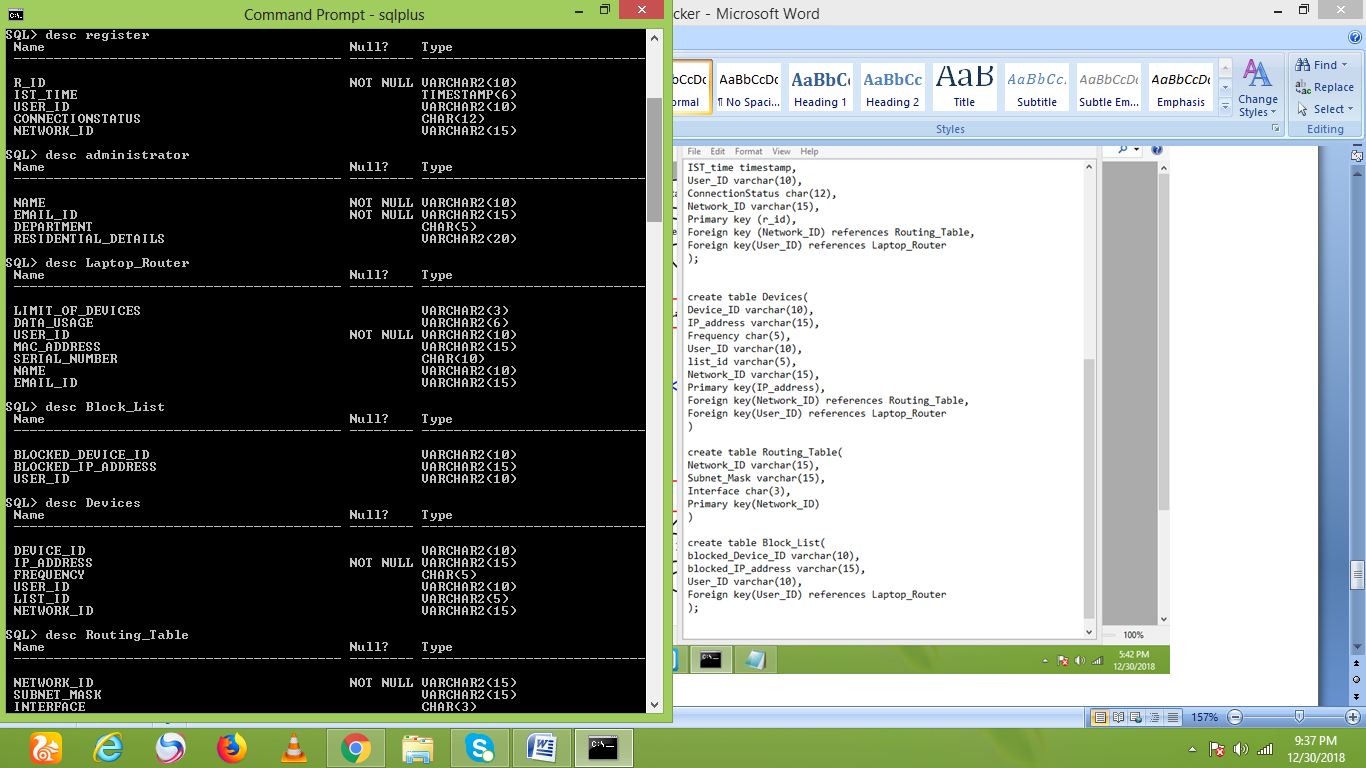
The foreign key is user ID.

Cardinality:

1:n with devices.

1:1 with administrator.

**ROUTING TABLE:**



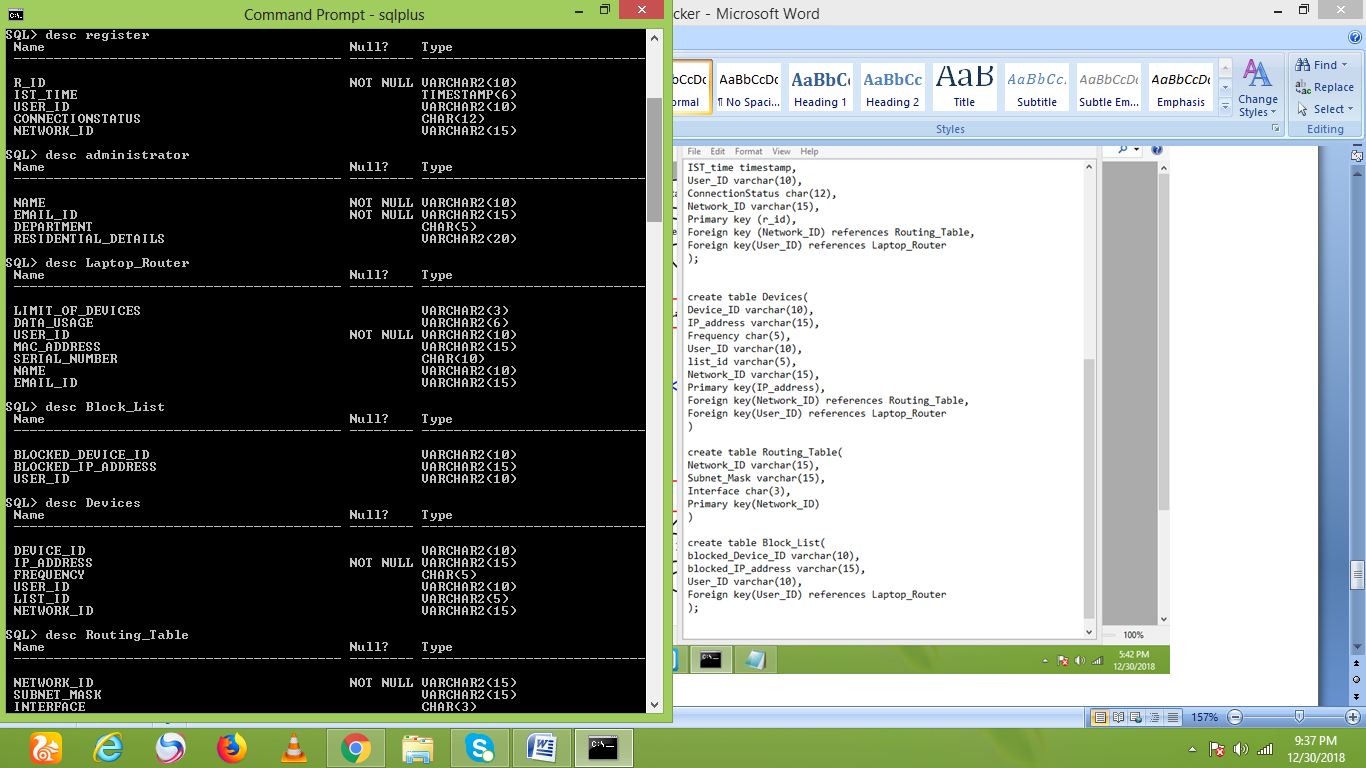
The primary key is Network ID.

Cardinality:

1:1 with register.

1:n with devices.

**DEVICES:**



The primary key is Device ID.

The foreign key is Network ID, User ID, List ID.

Cardinality:

n:1 with block list.

n:1 with Routing table.

n:1 with Laptop Router.

N:1 with Register.