HW9 2150276 沈卓成

1 建立dotnet console应用，用EFCore连接mysql（Code first)

创建控制台应用

输入命令行:

```
dotnet new console --name Program.cs
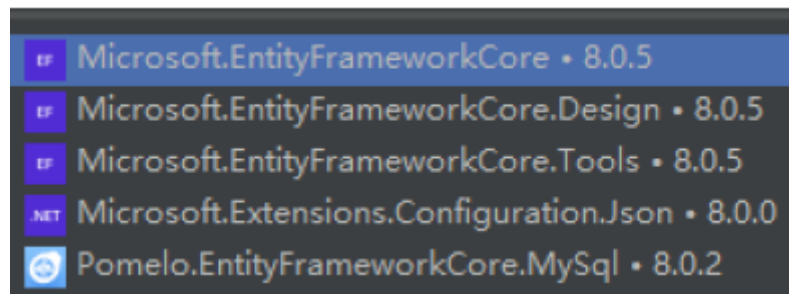```

Code:

```
class Program
{
    static void Main()
    {
        Console.WriteLine("Hello, World!");
    }
}
```

Ans:

安装*Entity Framework*所需要的依赖

增加一个实体类*Product*

```
namespace Program.Models;
public partial class Product
{
    public int Id{get;set;}
    public string Name{get;set;}
    public decimal? Price{get;set;}
    public string Category{get;set;}
}
```

添加配置文件

```
{
"ConnectionSttrings":
    {

"Default":"Server=localhost;port=3306;Database=dotnet;Pwd=2150276szc;charset=utf
8"
    }
}
```

增加*DBContext*上下文，对*Product*实体类进行操作

```
namespace Program.Models;
public class ProductContext:DbContext
{
    public ProductContext(DbContextOptions<ProductContext>
options):base(options)
    {
    }
    public DbSet<Product> Products{get;set;}
}
```

进行*Code First*迁移

```
dotnet ef migrations add AddProduct
```
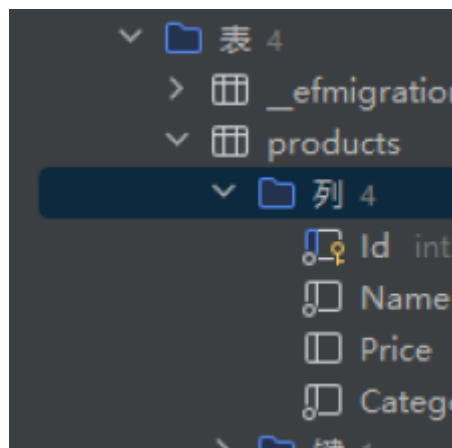
Ans:

```
Build started...
Build succeed
```



```
dotnet ef database update
```

此时可以看到已经进行了code->database的迁移：

查询验证：

```
class Program
{
```

```csharp
    static void Main(string[] args)
    {
        DemoDbContext ctx=new DemoDbContext();
        int nRows=ctx.Products.Count();Console.WriteLine($"Total rows in
Products table: {nRows}");
        Product p= new Product();
        p.Name ="Laptop".
        p.Price =1000;
        p.Category ="Electronics".
        ctx.Products.Add(p);
        ctx.SaveChanges();
        nRows = ctx.Products.Count();
        Console.WriteLine($"Total rows in Products table: {nRows}").
        var allRows =from oin ctx.Products select o;foreach(var row in allRows)
        Console.WriteLine($"Id: frow.Id}, Name: frow.Name}, Price:
frow.Price}Category:frow.Category}");
    }

}
```

Ans:

```
Total rows in Products table: 0
Total rows in Products table:1
Id: 1,Name: Laptop, Price:1000,Category: Electronics
--------------------------------------------------------------------------------
-
Total rows in Products table: 1
Total rows in Products table: 2
Id:1,Name: Laptop, Price:1000,Category: ElectronicsId: 2, Name: Laptop, Price:
1000,Category: Electronics
```

2 Database First（反向工程）

命令行:

```
dotnet ef dbcontext scaffold
"Server=localhost;port=3306;Database=dotnet;Uid=root;Pwd=2150276szc;charset=utf8
;"Pomelo.EntityFrameworkCore.MySql -o Models
```
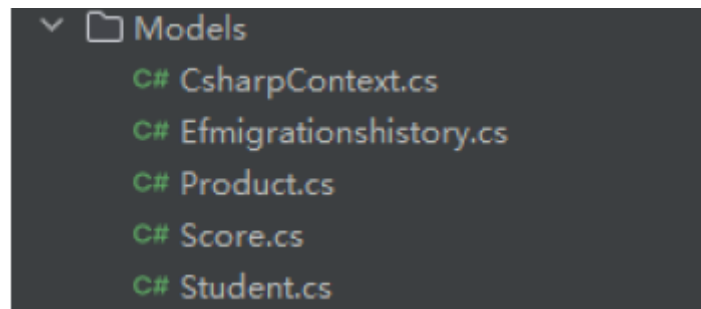
Ans:

```
Build started...
Build succeed
Using ServerVersion '8.0.37-mysql'
```

可以看见反向工程的生成结果:

验证:

```csharp
class Program
{
    static void Main(string[] args)
    {
        using(var context=new CsharpContext())
        {
            var products=context.Products.ToList();
            foreach(var product in products)
            {
                Console.WriteLine($"{product.Name}  {product.Price}");
            }
        }

    }

}
```

Ans:

```
Laptop  1000
Laptop  1000
```