

## Output :

```
Connecting to Micro Car
CarModel - MICRO located in INDIA
Connecting to Mini car
CarModel - MINI located in INDIA
Connecting to luxury car
CarModel - LUXURY located in INDIA
```

### Difference

- The main difference between a “factory method” and an “abstract factory” is that the factory method is a single method, and an abstract factory is an object.
- The factory method is just a method, it can be overridden in a subclass, whereas the abstract factory is an object that has multiple factory methods on it.
- The Factory Method pattern uses inheritance and relies on a subclass to handle the desired object instantiation.

### Advantages

This pattern is particularly useful when the client doesn't know exactly what type to create.

- **Isolation of concrete classes:** The Abstract Factory pattern helps you control the classes of objects that an application creates. Because a factory encapsulates the responsibility and the process of creating product objects, it isolates clients from implementation classes. Clients manipulate instances through their abstract interfaces. Product class names are isolated in the implementation of the concrete factory; they do not appear in client code.
- **Exchanging Product Families easily:** The class of a concrete factory appears only once in an application, that is where it's instantiated. This makes it easy to change the concrete factory an application uses. It can use various product configurations simply by changing the concrete factory. Because an abstract factory creates a complete family of products, the whole product family changes at once.
- **Promoting consistency among products:** When product objects in a family are designed to work together, it's important that an application use objects from only one family at a time. AbstractFactory makes this easy to enforce.

### Disadvantages

- **Difficult to support new kind of products:** Extending abstract factories to produce new kinds of Products isn't easy. That's because the AbstractFactory interface fixes the set of products that can be created. Supporting new kinds of products requires extending the factory interface which involves changing the AbstractFactory class and all of its subclasses.

**NOTE :**

Somewhat the above example is also based on How the Cabs like uber and ola functions on the large scale.

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