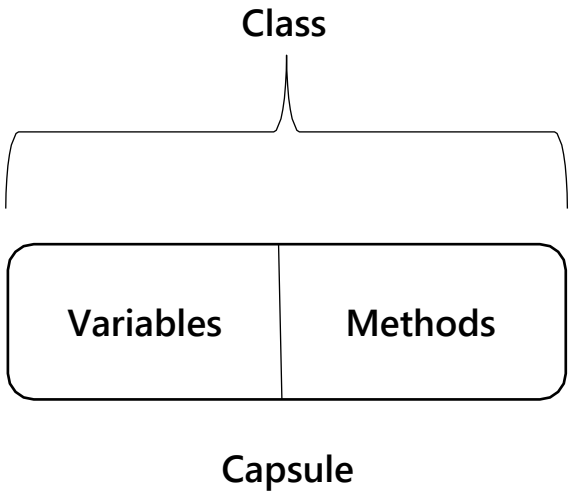
Encapsulation :-

What is encapsulation?

It is a mechanism through we can wrap the data members and member methods of class in a single unit, is called encapsulation.

- **Declare the class variables as a private.**
- **Declare the class method as a public.**

Ex. Class is the best example of encapsulation.



Abstraction :-

What is abstraction?

It is a process of hiding the implementation details from the user, only the highlighted set of services provided to the user.

Advantage :-

1. **Security**
2. **Enhancement**

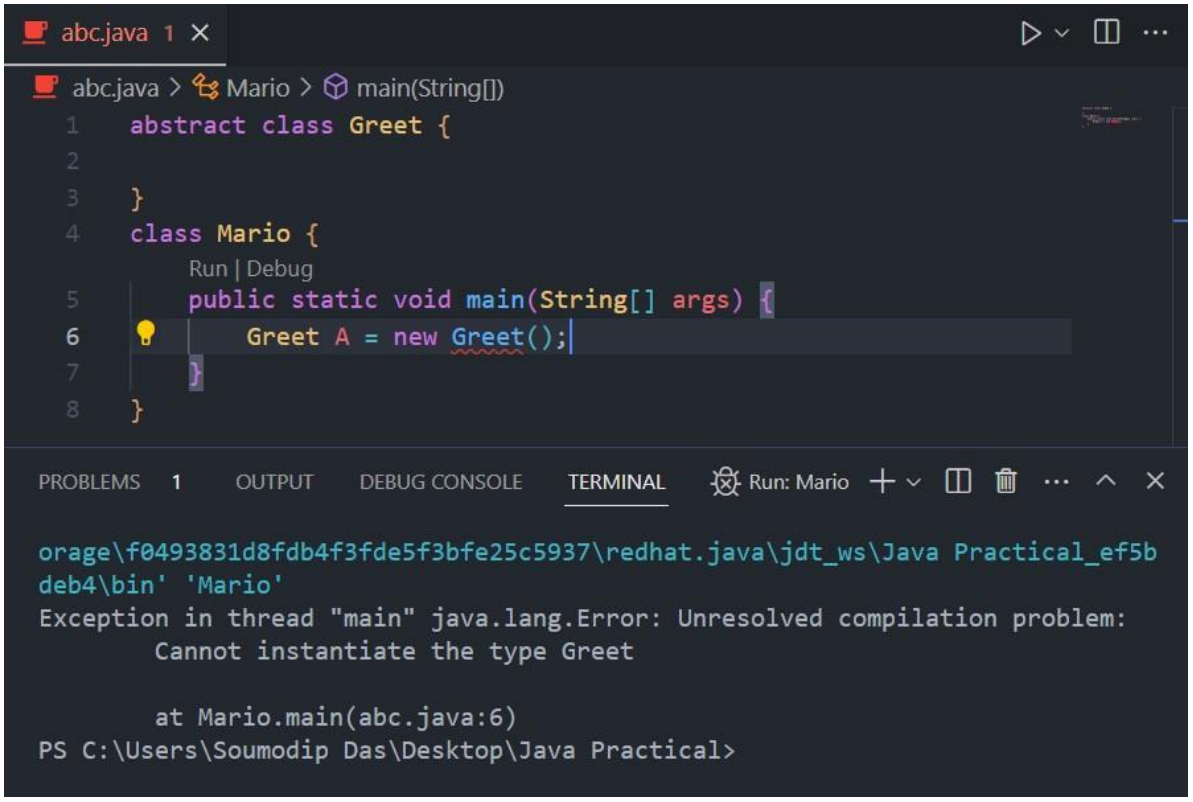
Abstraction

- Abstract class
- Interface

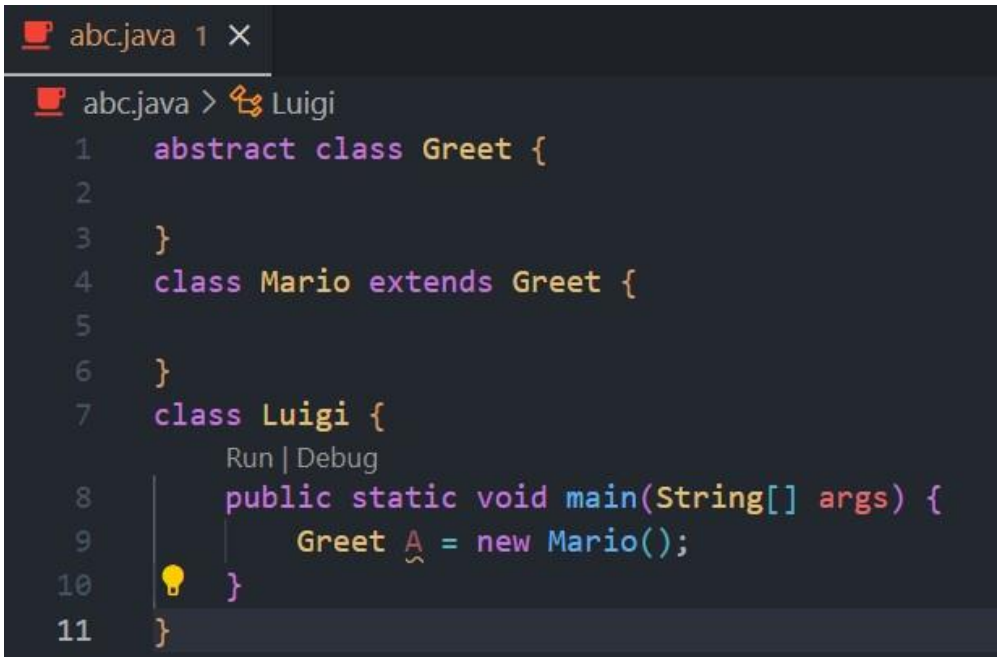
What is abstract class ?

A class which contains the abstract keyword in it's declaration is called abstract class.

1. We cannot create object for abstract class.



But we can create reference of abstract class.



2. It may or may not contain abstract method.
3. It can have abstract & non-abstract methods.
4. To use an abstract class, we have to inherit it from sub classes.
5. If a class contain partial implementation then we should declare a class as abstract.

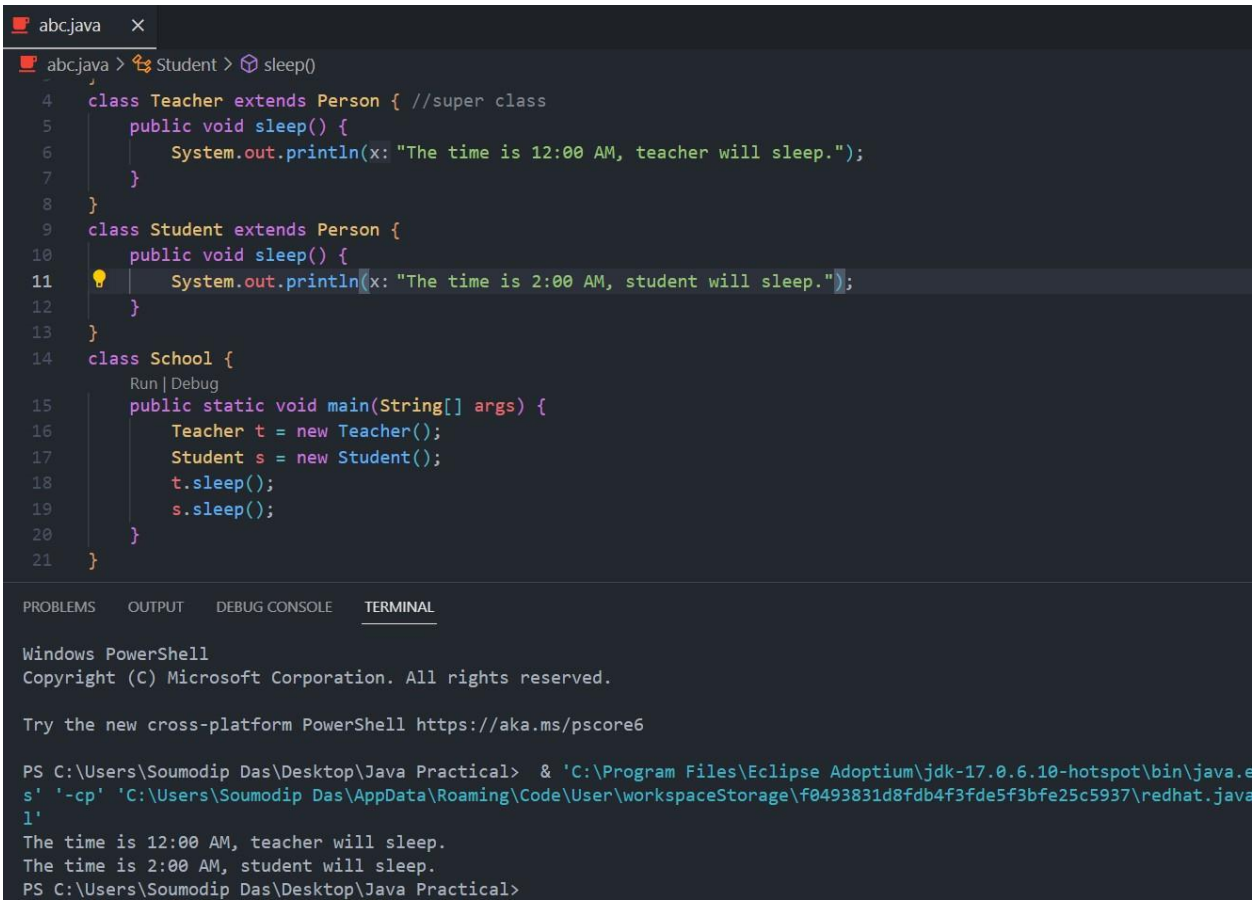
Ex.

```
abstract class Greet {
    abs void()
}
```

```
abs class Greet {
    public void {}
}
```

```
abstract class person {
        public abstract void write()
}
class student extends person{
}
```

```
class teacher extends person{
}
```



Abstract Method(Incomplete) :-

What is abstract method?

A method which contain abstract modifier at the time of declaration is called abstract method.

- **It can be used in abstract class.**
- **It does not contain any body "{ }" and always ends with ";" .**
- **Abstract method must be overridden in a sub classes otherwise it will also become an abstract class.**
- **Whenever the action is common but implementation are different then we should abstract method.**

```
class vehicle {
  void wheels ();
}
```

We can never say that how many wheels can exist in a vehicle, so we should define the method as abstract.

```
abstract class vehicle {
  abstract void wheels ();
}
```

var-args method

It is known as variable number of arguments method. By using this concept we can pass any number of parameters including zero parameter to the calling method.