

Experiment No-10

SR (16/10) SR

Aim → Write a program on abstract class and abstract methods.

Resource Required → Pentium IV, JDK, Pointer.

Theory →

Abstraction in Java →

Abstraction is a process of ~~lift~~ lifting the implementation details and showing only functionality to the user. Another way it shows only essential things to the user and hides the internal details. For example sending SMS where you type the text and send the message. You don't know the internal processing about the message delivery. Abstraction lets you focus on what the objects do instead of how it does it.

Ways to achieve Abstraction →

- 1) Abstract Class
- 2) Interface.

→ Abstract Class - It is a class that cannot be ~~instor~~ initiated on its own, meaning you cannot create an object of it directly. It is ~~helped~~ designed to be extended by another

classes. An abstract class may have both abstract methods (methods without implementation) and concrete methods (methods with implementation). We use the abstract keyword to declare an abstract class.

Eg → // Create an abstract class

```
abstract class Language {
```

```
// field and methods.
```

```
}
```

```
// try to create an object language.
```

```
// throws an error
```

```
Language obj = new Language();
```

An abstract class can have both the regular methods and abstract methods. For example →

```
abstract class Language {
```

```
// abstract method
```

```
abstract void method();
```

```
// regular method
```

```
void method() {
```

```
System.out.println("This is regular method");
```

```
}
```

```
}
```

An abstract method is a method that is declared without an implementation (using the abstract keyword). It does not have a body and must be overwritten by any subclass that extends the abstract class.

If a class contains an abstract method then the class should be declared abstract otherwise it will generate an error.

Conclusion → We have successfully implemented java program of abstract class and method.

Samir
11/10/24