

Day 5

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☰ Tags	Java

sAbstract Class

- Class which is used to represent a common noun
- All common nouns are by default abstract
- Represents kind of relationship
- Used to create classification or part whole error
- Abstract - overview
- Can have only one parent class
- Always create in a hierarchy
- Top class should be abstract
- Abstract class don't have object
- Abstract class can have constructor and method
- Can have abstract methods

```
//An abstract class is a class which is used to represent a common noun
//All commons nouns are by default abstract
//Abstract class represents kind of relationship
//Helps to create classification or part whole hierarchy
//we classify for gaining 6 advantages...
//its compulsory that we declare the parent classification class as ABSTRACT
//Because abstracts don't exists in real life.
//for example - can u see Paint,car,bus,table,chair etc - they are abstract
//meaning of abstract is overview
package day5;
public class AbstractClassDemo {
    public static void main(String[] args) {
        PaintBrush brush=new PaintBrush();
        //dependency injection
        brush.paint=new RedPaint();
        brush.doPaint();
    }
}
//paintbrush is closed for modification but open for extension
class PaintBrush{
    Paint paint;
    public void doPaint() {
        System.out.println(paint);
    }
}
abstract class Paint{
```

```
}
class RedPaint extends Paint{

}
class BluePaint extends Paint{

}
class PinkPaint extends Paint{

}
/*
 * with the help of inheritance we created a hierarchy.
 * we made the paintbrush reusable as an object
 * we eliminated if-else-condition
 * How to eliminate the if-else-if
 * a. convert the condition to classes.
 * b. Group them under a hierarchy (inheritance)
 * c. Create a association (relation) between the using (PaintBrush) class and Hierarchical classifier class (Paint)
 */
```