

9-5-2020

Use of final keyword in java:-

11th week
073-292

14

Saturday

MARCH							APRIL						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21
22	23	24	25	26	27	28	22	23	24	25	26	27	28
29	30	31					29	30					

final can be used to declare a final variable

```
final int x=5;
```

final variable value cannot be changed during the scope of the program. a final method

```
final void m1()
{
  //
}
//
```

final method cannot be overridden.

a final class

final class cannot be inherited.

```
final class finaltest
{
  //
}
//
```

Let us try with an example:-

finaltest.java

(final method)

```
class Parent {
  int i=10;
  final void method1()
  {
    System.out.println("final method");
  }
}
```

Override is not possible because it is declared in parent class.

class Child extends Parent

```
{
  void method1()
  {
    System.out.println("child Method");
  }
}
```

15 Sunday

Notes

```

class finaltest {
    public static void main (String args [])
    {
        child obj = new child ();
        obj.method1 ();
    }
}

```

Example of final-~~class~~ variable

Let us try with an

small example as:-

finaltest1.java

```

class demo {

```

```

    final int i = 20;

```

```

    demo ()
    {

```

```

        // i = i + 10;

```

```

        System.out.println ("value of i: " + i);
    }
}

```

If we declare final then the value of i cannot be changed.

```

class finaltest1 {

```

```

    public static void main (String args [])
    {

```

```

        demo demo obj = new demo ();
    }
}

```

Notes

Here output is :- Value of i: 30

MARCH							APRIL							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	
1	2	3	4	5	6	7					1	2	3	4
8	9	10	11	12	13	14	5	6	7	8	9	10	11	
15	16	17	18	19	20	21	12	13	14	15	16	17	18	
22	23	24	25	26	27	28	19	20	21	22	23	24	25	
29	30	31					26	27	28	29	30	31		

But when we change `int i=20;`

final `int i=20;`

then we cannot change the value of `i` in `i = i + 10;` statement

Example of final class

finaltest2.java

final class demo {

if we declare demo class as not final then it is not allowed to inherit! ~~ERRRR!~~

```
void method1()
{
    System.out.println("Parent class");
}
```

class finalchild extends demo

```
{
    void method1()
    {
        System.out.println("Child class");
    }
}
```

class finaltest2

```
{
    public static void main(String args[])
    {
```

```
        finalchild obj = new finalchild();
        obj.method1();
    }
```

Abstract class/Methods

March

18

Wednesday

→ Abstract class is that whose instances cannot be created.

→ Any class that has at least one abstract method has to be compulsory declared as an abstract class.

→ Abstract class can contain both abstract and non-abstract methods.

→ An abstract method has no body.

→ Child class needs to override the definition of all abstract methods.

eg:- `abstract void m1();`

Example of abstract class/method:- `AbstractTest.java`

```
abstract class parent {  
    abstract void method1();  
    void method2()  
    {  
        System.out.println("method 2 from parent");  
    }  
}
```

```
class child extends parent {  
    void method1() {  
        System.out.println("child class method");  
    }  
}
```

MARCH						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

APRIL						
S	M	T	W	T	F	S
	1	2	3	4		
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

12th week
078-287

19
Thursday

```

}
class abstracttest {
public static void main (String args[])
{
    child obj = new child ();
    obj.method1 ();
    obj.method2 ();
}
}

```

The above program has an error because this class has one abstract method so it should be abstract hence:-

abstract class parent {

If we put abstract keyword before class parent then it will give output :- child class method 1
method 2 from parent

In child class, method1() should be overridden because it is an abstract method of its base class parent.