



Artificial Intelligence and Data Science Department.

OOPM / Odd Sem 2021-22 / Experiment.

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EXPERIMENT - 8.

AIM: To write a program to demonstrate use of final variable.

Program 1:

```
import java.util.*;
final class ship
{
    public static void main(String args[])
    {
        final int var = 32;
        System.out.println("Value of var is " + var);
        var = 100; //ERROR
        System.out.println("Value of var is " + var);
    }
}
```

The output of program 1:

```
PS D:\Programming\Java> javac Ship.java
Ship.java:10: error: cannot assign a value to final variable var
    var = 100;
    ^
1 error
PS D:\Programming\Java>
```

Final in JAVA

- Theory:
- i) The keyword final is called modifier in general. In inheritance, it is used to create final method & class.
 - ii) Variable having the keyword final before them have a constant value and the value cannot be changed later on by other methods in the class.
 - iii) Method overriding is a useful feature in JAVA, but there will be certain situations when we want to prevent it from happening.
 - iv) To disallow a method from being overridden, we should specify the word final as a modifier at the beginning of the method.
 - v) Hence, a final method is a method that cannot be overridden.

```
class A {  
    final void show() {  
        System.out.println("This is a final method");  
    }  
}  
  
class B extends A {  
    void show() {  
        System.out.println("This is an error");  
    }  
}
```


vi) A final class is a class which cannot be inherited.
To prevent a class from being inherited, we need to add a 'final' keyword with the class declaration.

vii) For example, this program will show an error since class B tries to inherit class A which is declared to be final.

```
final class A {  
    }  
    class B extends A {  
    } // error.
```

viii) Declaring a class as final automatically makes all methods final.

Conclusion: Final keyword is used in variables to prevent their value from being changed later on. Function overriding can be prevented if we declare the methods as final. Other classes cannot inherit a final class.
