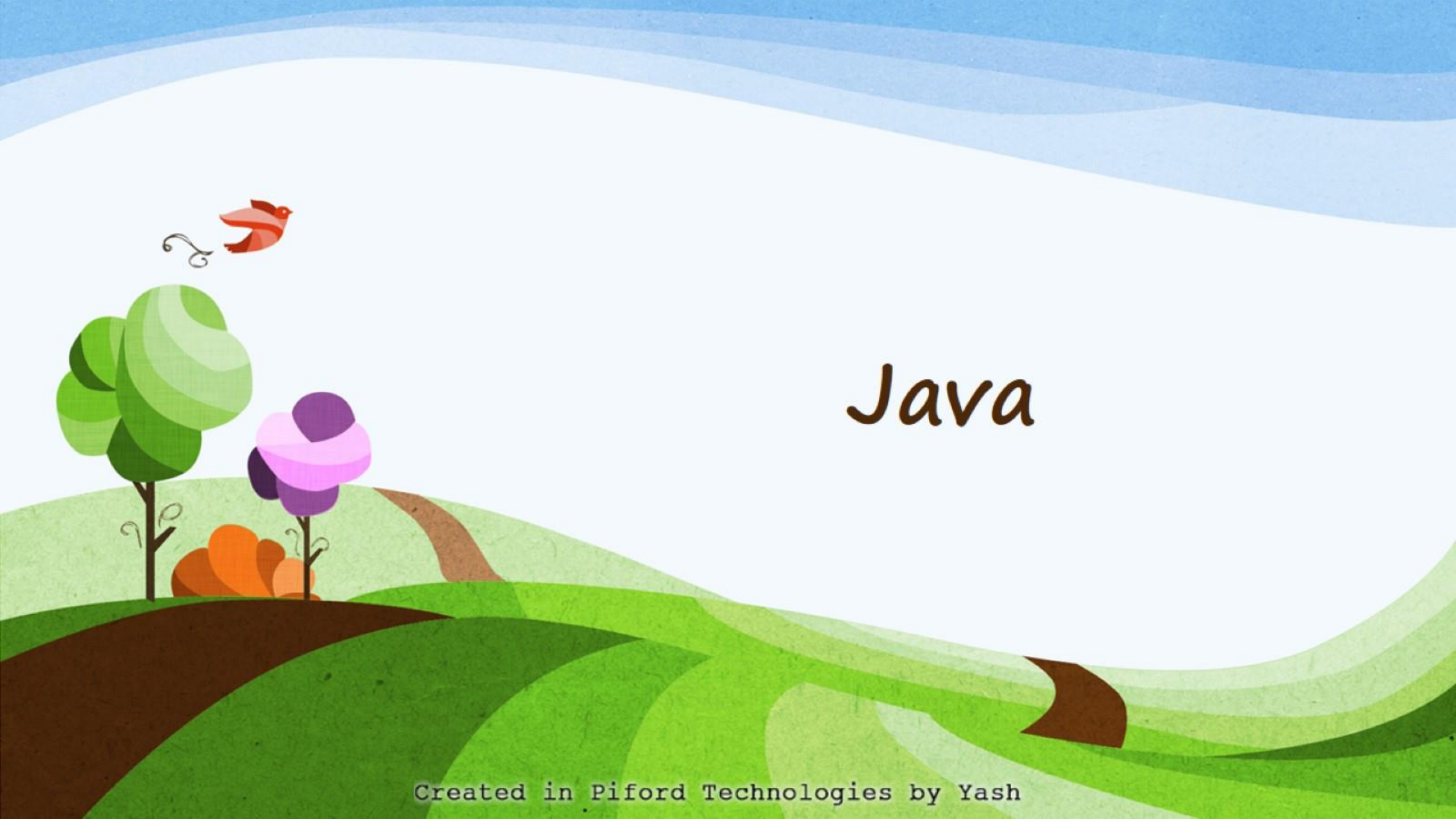
Java
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Polymorphism

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Polymorphism

- When one task is performed by different ways i.e. known as polymorphism.
- In java, we use method overloading and method overriding to achieve polymorphism.
- Example: We can say Hello in many ways

  Bengali = Nomoskar, French = Bonjour, Hindi = Namaste

Encapsulation

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Encapsulation

- Binding/wrapping code and data together into a single unit is known as encapsulation.
- The common example of encapsulation is Capsule. In capsule all medicine are encapsulated inside capsule.

Super keyword

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Super keyword

- The super keyword in java is a reference variable which is used to refer immediate parent class object.
- Whenever you create the instance of subclass, an instance of parent class is created implicitly which is referred by super reference variable.

Example:

```
1  package try1;
2
3  class Print{
4  public static void main(String args[]){
5  Subject s=new Subject();
6  s.show();
7    }
8  }
9  class Student{
10     String name = "Yash";
11 }
12 class Subject extends Student{
13     String name = "English";
14     void show(){
15         System.out.println(name);
16         System.out.println(super.name);
17     }
18 }
19
```

Output: English
Yash

Java Final Keyword

- The final keyword in java is used to restrict the user.
- The java final keyword can be used in many context. Final can be:
  - variable
  - method
  - class

How it Works?

- Stop value change.
- Stop Method Overloading.
- Stop Inheritance.

Example:

```
1  package try1;
2
3  class Print{
4  public static void main(String args[]){
5  Student s=new Student();
6  s.show();
7    }
8  }
9
10 class Student{
11      final String name = "Yash";
12      void show(){
13          name = "Ash";
14      }
15 }
16
```

this keyword

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this keyword

- There can be a lot of usage of java this keyword.
- In java, this is a reference variable that refers to the current object.

Without this keyword

```
1  package try1;
2
3  class Print{
4  public static void main(String args[]){
5  Student s=new Student("Yash");
6  s.show();
7    }
8  }
9
10 class Student{
11      String name;
12      Student(String name){
13          name = name;
14      }
15      void show(){
16          System.out.println(name);
17      }
18 }
19
```

Output: null

With this keyword

```
1  package try1;
2
3  class Print{
4  public static void main(String args[]){
5  Student s=new Student("Yash");
6  s.show();
7    }
8  }
9
10 class Student{
11      String name;
12      Student(String name){
13          this.name = name;
14      }
15      void show(){
16          System.out.println(name);
17      }
18 }
19
```

Output: Yash

static keyword

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static keyword

- The static keyword in java is used for memory management mainly.
- We can apply java static keyword with variables, methods, blocks and nested class.
- The static keyword belongs to the class than instance of the class.

Example

```
1  package try1;
2
3  class Print{
4  public static void main(String args[]){
5  Student s=new Student("Yash","CSE");
6  s.show();
7    }
8  }
9
10 class Student{
11      String name;
12      String course;
13      static String colg = "CU";
14      Student(String nm, String c){
15          name = nm;
16          course = c;
17      }
18      void show(){
19          System.out.println(name+" "+course+" "+colg);
20      }
21 }
22
```

Output: Yash CSE CU