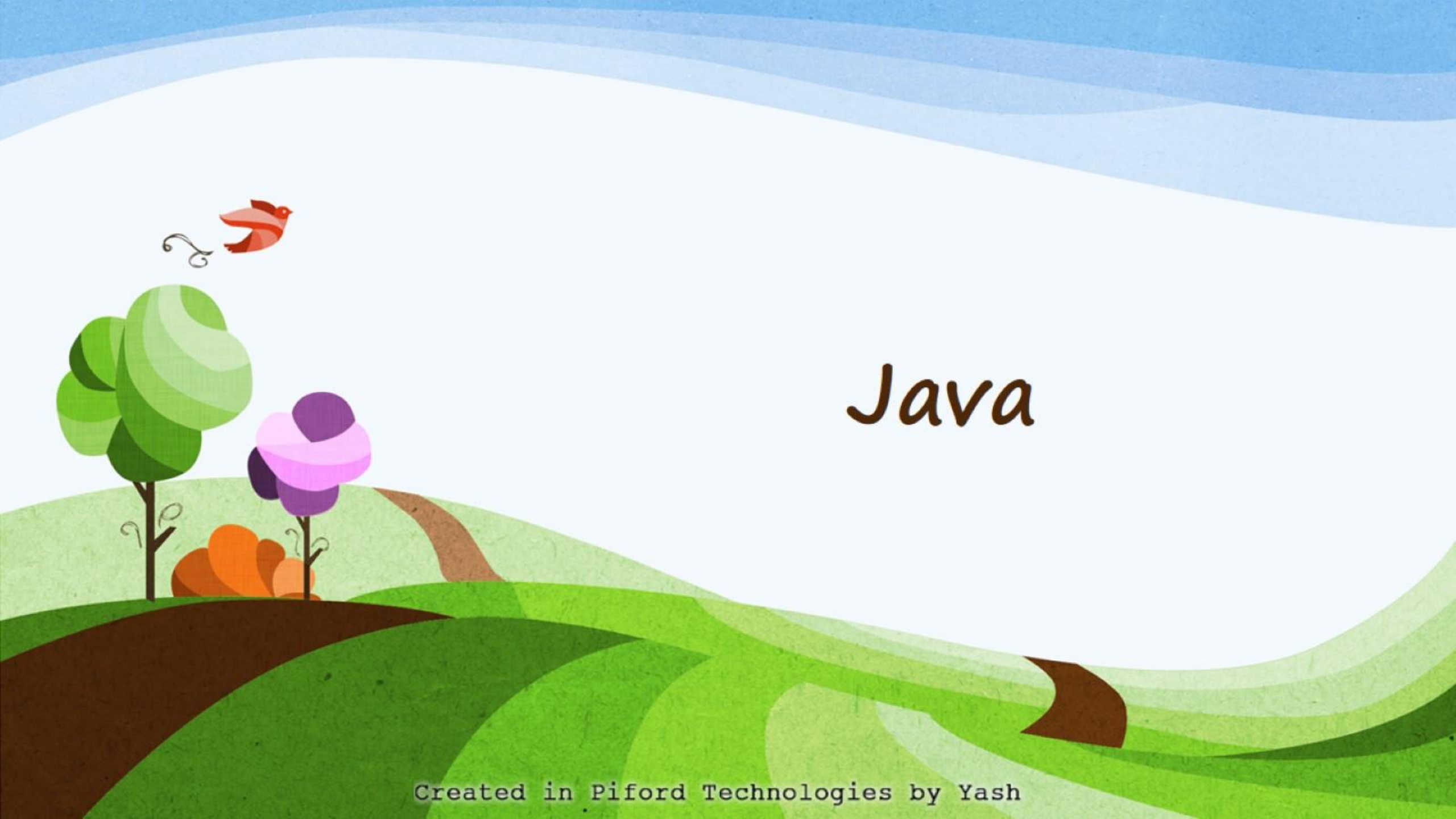


A stylized, colorful illustration of a landscape. The foreground features rolling green hills with a dark brown path. On the left, there is a green tree, a purple flower, and an orange flower. A small red bird is flying in the sky. The background consists of layered blue and white hills under a light blue sky.

Java

Created in Piford Technologies by Yash

A stylized landscape illustration featuring rolling green hills in the foreground, a small tree with a brown trunk and purple and pink foliage on the left, and blue and white wavy bands in the background representing the sky. The word "Polymorphism" is written in a brown, cursive font in the center-right.

Polymorphism

Created in Piford Technologies by Yash

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

A stylized landscape illustration featuring rolling green hills in the foreground, a small tree with a brown trunk and purple and pink foliage on the left, and blue and white wavy bands representing hills or clouds in the background.

Encapsulation

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.



A stylized landscape illustration featuring rolling green hills in the foreground, a small tree with a brown trunk and purple and pink foliage on the left, and layered blue and white hills in the background under a blue sky.

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
```

A stylized landscape illustration featuring rolling green hills in the foreground, a small tree with a brown trunk and purple and pink foliage on the left, and blue and white wavy bands in the background representing a sky or distant mountains. The text "this keyword" is centered in the white area.

this keyword

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

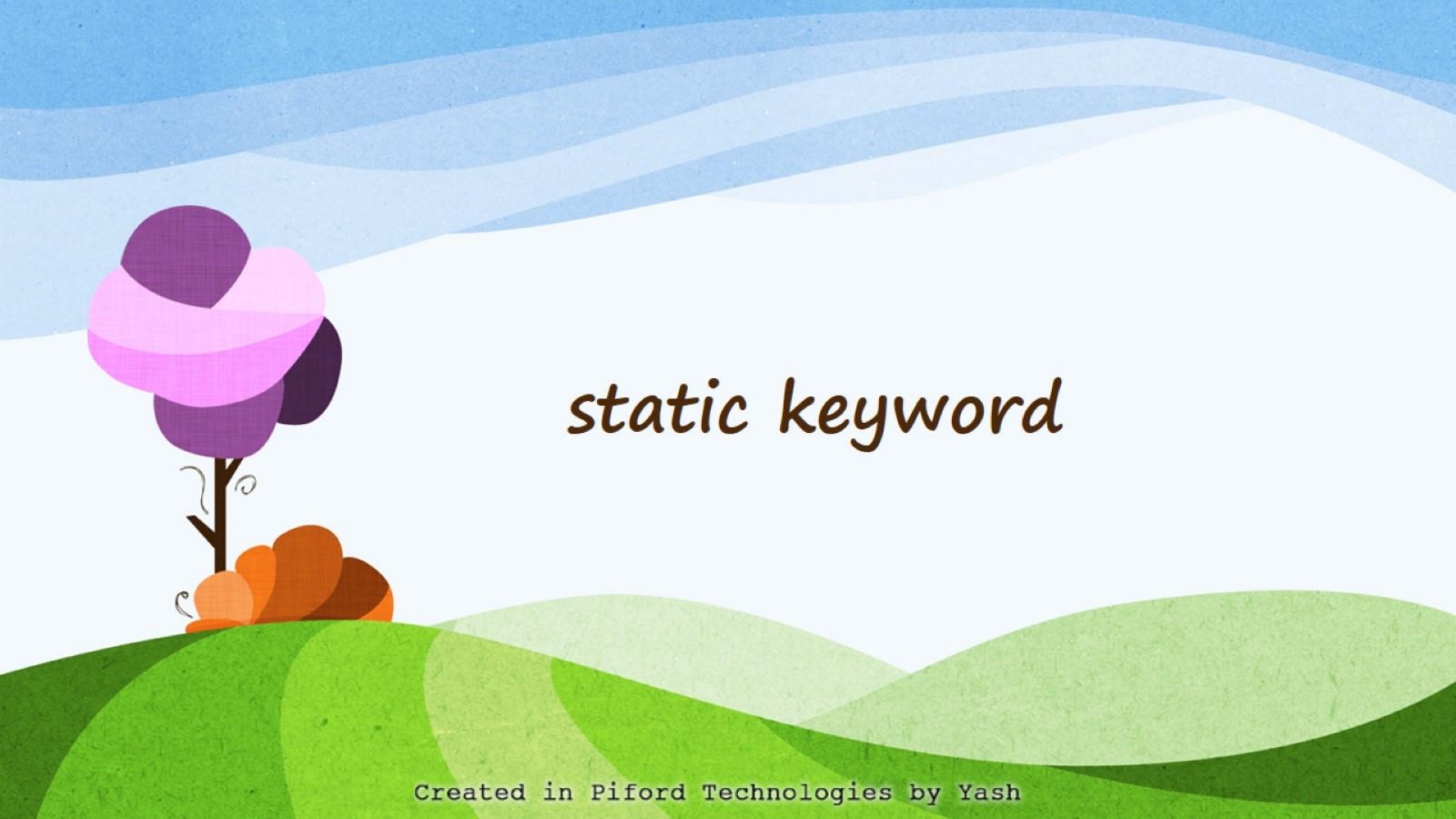
```
1 package try1;
2
3 class Print{
4 public static void main(String args[]){
5     Student s=new Student("Yash");
6     s.show();
7 }
8 }
9
10 class Student{
11     String name;
12     Student(String name){
13         name = name;
14     }
15     void show(){
16         System.out.println(name);
17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

A stylized landscape illustration. On the left, a tree with a brown trunk and several rounded, overlapping leaves in shades of purple and pink stands on a green hill. The hill is composed of several overlapping, rounded shapes in various shades of green. In the background, there are more green hills and a sky with wavy, horizontal bands of light blue and white. The text 'static keyword' is written in a brown, cursive font in the center-right of the image.

static keyword

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