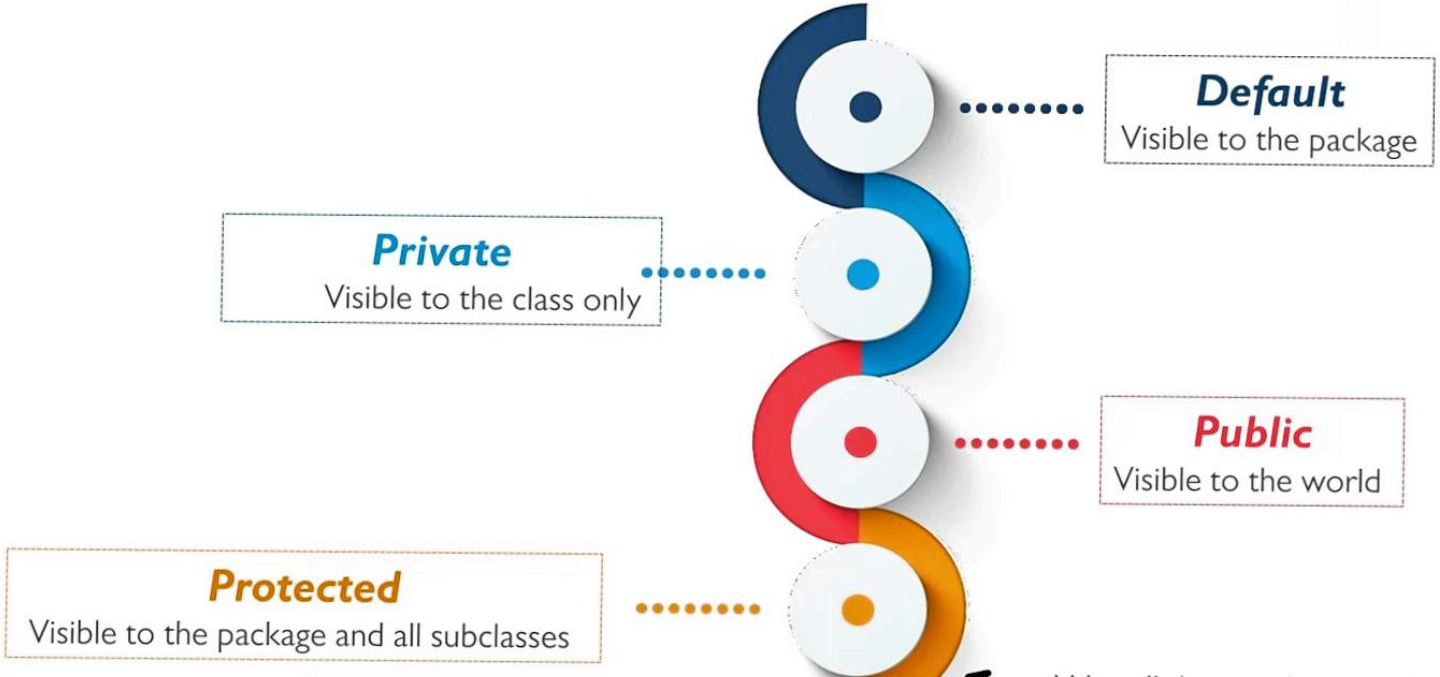
# Access Control Modifiers

Java provides a number of access control modifiers to set access levels for classes, variables, methods and constructors

The four access levels are –



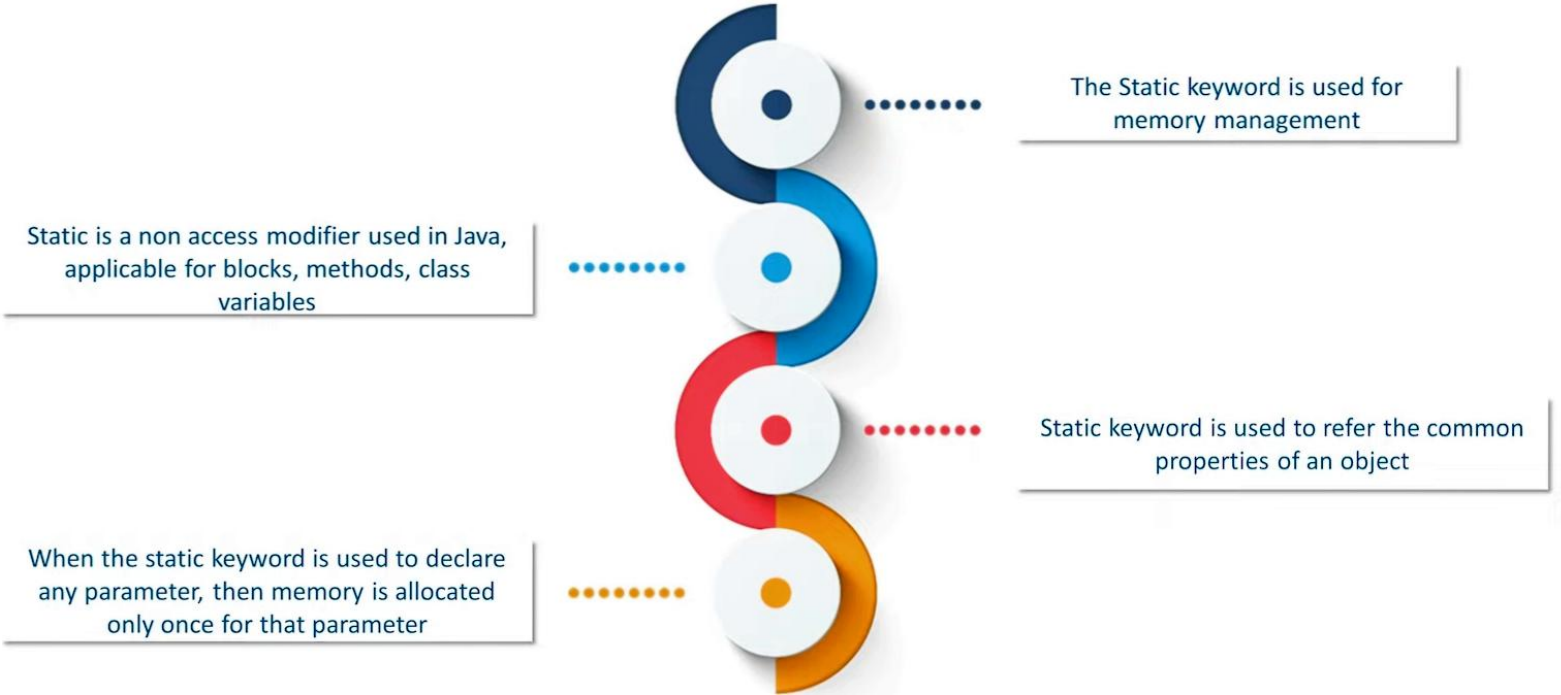
# Non-Access Modifiers

Java provides a number of non-access modifiers to provide additional functionalities to a class, variable, method or constructor

Some of them are:

| static | final | abstract | synchronized and volatile |
| --- | --- | --- | --- |
| The static modifier for calling methods and variables without an object to which it belongs | The final modifier for finalizing the implementations of classes, methods, and variables | The abstract modifier for creating abstract classes and methods | The synchronized and volatile modifiers, which are used for threads |

# Java *Static* Keyword



# Demo – Java *Static* Keyword

1

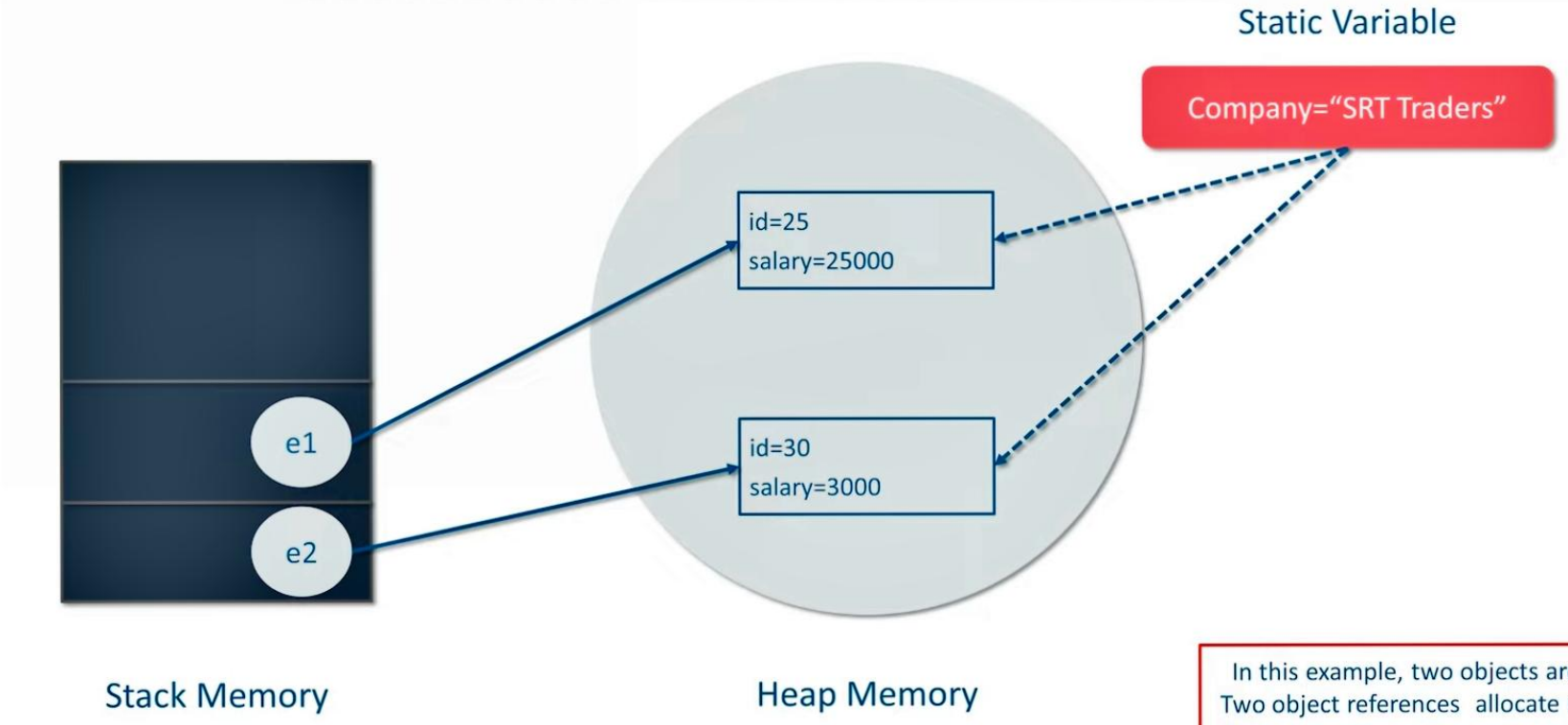
```
class Employees{
int id;
int salary;
static String company="SRT Traders";

Employees(int i, int s){
id=i;
salary=s;
}

void display() {
System.out.println(id+" "+salary+" "+company);
}
}

public class StaticKey {
public static void main(String[] args) {

Employees e1=new Employees(25,25000);
Employees e2=new Employees(30,3000);
e1.display();
e2.display();
}
}
```

company is a Static variable. It allocates memory only once

Output

```
25 25000 SRT Traders
30 3000 SRT Traders
```

# Demo – Java *Static* Keyword




In this example, two objects are created. Two object references allocate memory in the Stack. But as the ***company*** variable is ***static***, memory is allocated only once for it

# Demo – Java *static* Keyword

2

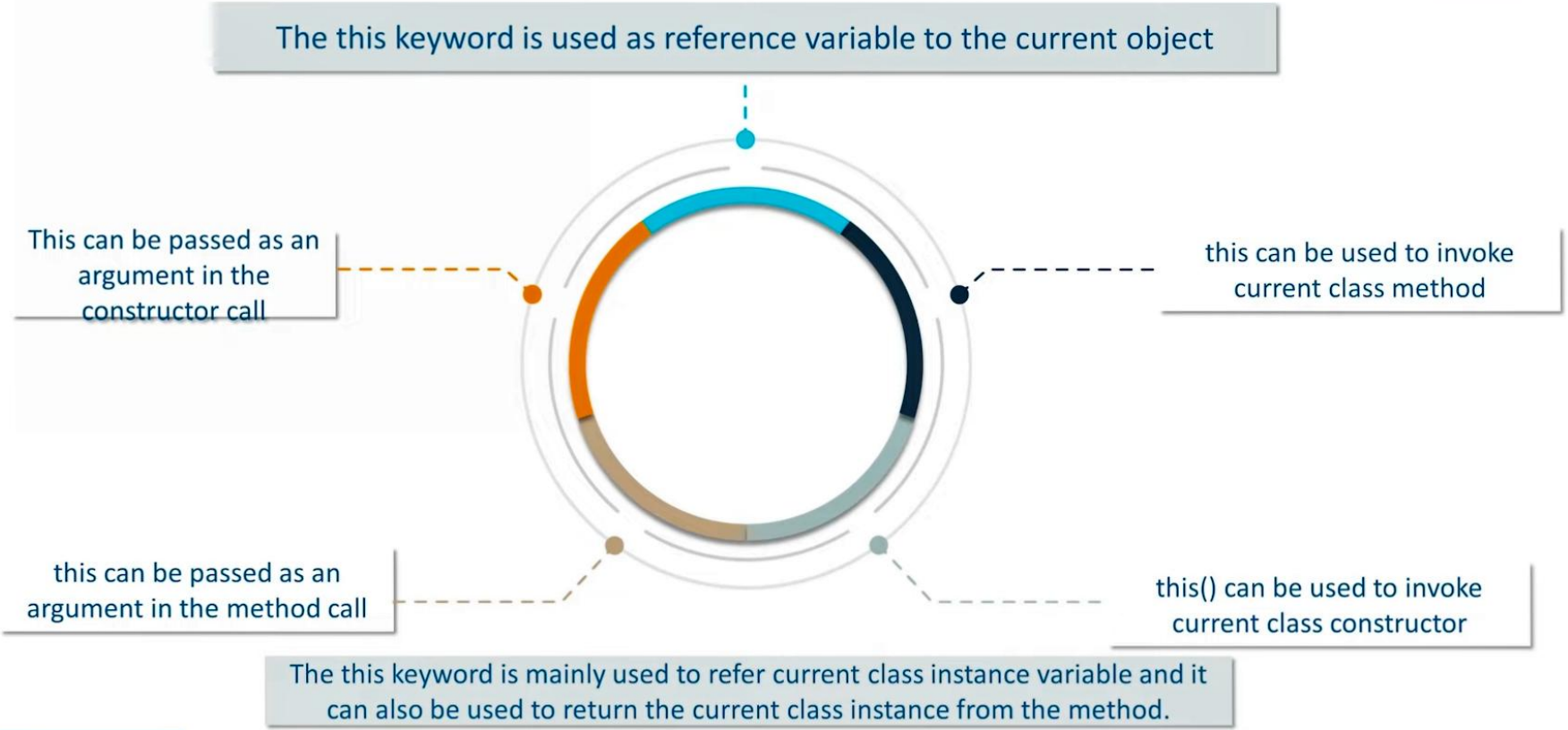
```
class Employees{
int id;
int salary;
static String company="SRT Traders";

static void check() {
company="WIIT";
}

Employees(int i, int s){
id=i;
salary=s;
}

void display() {
System.out.println(id+" "+salary+" "+company);
}
}

public class StaticKey {
public static void main(String[] args) {
Employees.check();
Employees e1=new Employees(25,25000);
Employees e2=new Employees(30,3000);
e1.display();
e2.display();
}
}
```

A static method can be invoked without the need for creating instance of a class

Output

```
25 25000 WIIT
30 3000 WIIT
```

# Java *this* Keyword



# Demo – Java *this* Keyword

1

```
class ClassInfo{
int rollno;
String name;


ClassInfo(int rollno,String name){
this.rollno=rollno;
this.name=name;

}
void display(){System.out.println(rollno+" "+name);}
}



public class ThisDemo {

public static void main(String[] args) {
ClassInfo c1=new ClassInfo(10,"John");
ClassInfo c2=new ClassInfo(12,"Annie");
c1.display();
c2.display();

}
}
```

Output

```
10 John
12 Annie
```

If local variables and instance variables are different, there is no need to use this keyword

# Demo – Java *this* Keyword

2

```
class Message{

Message(){
this("Annie");
System.out.println("Welcome to Edureka");
}

Message(String n){
System.out.println(n);
}
}
public class This2 {

public static void main(String[] args) {
Message m=new Message();
}
}
```

Output

```
Annie
Welcome to Edureka
```

# How Does this Keyword Work?