# **This keyword**

In java, this is a **reference variable** that refers to the current object.

1. this can be used to refer current class instance variable.
2. this can be used to invoke current class method (implicitly)
3. this() can be used to invoke current class constructor.
4. this can be passed as an argument in the method call.
5. this can be passed as argument in the constructor call.
6. this can be used to return the current class instance from the method.

**public** **class** ThisKeyword {

**class** Stu{

**int** rollno;

String name;

**float** fee;

//this: to refer current class instance variable or we can say that this keyword used to differentiate class level variable to parameter variable.

Stu(**int** rollno, String name, **float** fee){

**this**.rollno=rollno;

**this**.name=name;

**this**.fee=fee;

}

**public** **void** display()

{System.***out***.println(rollno+" "+name+" "+fee);}

}

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

ThisKeyword d = **new** ThisKeyword();

Stu s1 = d.**new** Stu(111,"ankit",5000f);

Stu s2 = d.**new** Stu(112,"sumit",6000f);

System.***out***.println("by using this keyword");

s1.display();

s2.display();

/\*A a=new A();

a.n();

B b=new B(10);

S2 s1 = new S2();

s1.p();

A4 aa=new A4(); \*/

}

}

//this keyword can be used to return current class instance from the method.

**class** A {

A getA() {

**return** **this**;

}

**void** msg() {

System.***out***.println("Hello java");

}

}

**class** Test1 {

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

**new** A().getA().msg();

}

}

//this: to pass as current class argument in the constructor call

**class** BB {

A4 obj;

BB(A4 obj) {

**this**.obj = obj;

}

**void** display() {

System.***out***.println(obj.data);// using data member of A4 class

}

}

**class** A4 {

**int** data = 10;

A4() {

aB b = **new** aB(**this**);

b.display();

}

}

//this: to pass as an argument in the method

**class** S2 {

**void** m(S2 obj) {

System.***out***.println("method is invoked");

}

**void** p() {

m(**this**);

}

}

//Calling parameterized constructor from default constructor:

**class** Ab {

Ab() {

**this**(5);

System.***out***.println("hello a");

}

Ab(**int** x) {

System.***out***.println(x);

}

}

//this() : to invoke current class constructor

**class** B {

B() {

System.***out***.println("hello a");

}

B(**int** x) {

**this**();

System.***out***.println(x);

}

}

//this: to invoke current class method

**class** Q {

**void** m() {

System.***out***.println("hello m");

}

**void** n() {

System.***out***.println("hello n"); // m();//same as this.m();}

}

}

**Question 1: "this" keyword can not be used in ---?**

    Constructors       Static blocks and methods        Non static methods

static block and methods do not have "this" because they are class members.

**Question 2: "this" is created in ---?**

    Stack        Heap        Class Area       None of these

"this" is a reference variable which receives the reference of the invoking object in a method or constructor. Reference variables are created in stack hence "this" is also created in the stack.

**Question 3: How many times "this" will be created during the execution of the following class?**

**class** **A**

{

**public** **static** **void** **main** (String[] args)

{

A x = **new** A();

A y = **new** A();

}

}

    0       1       2

Here two objects of A are created which results in the invocation of the constructor twice. In each constructor invocation a "this" is created.

**Question 4: "this" keyword represents a ---?**

    Reference variable        Object       Method       Constructor

**Question 5: What will be the output of the following class?**

**class** **B**

{

**int** b;

**public** **B**(**int** b)

{

b = b;

}

**public** **static** **void** **main** (String[] args)

{

B x = **new** B(10);

System.out.println("x.b :"+x.b);

}

}

    x.b: 10       x.b: 0        Compilation Error

In the constructor, local variable b has more precedance than the data member hence the given value is not assigned to the data member. The data member gets the default value 0.

**Question 6: What will be the output of the following class?**

**class** **C**

{

String msg;

**public** **C**()

{

**this**("Hello");

}

**public** **C**(String str)

{

msg = str+" India";

}

**public** **static** **void** **main** (String[] args)

{

C obj = **new** C();

System.out.println(obj.msg);

}

}

    Hello       Hello India        India       Compilation Error

**Question 7: Which of the following is not the use of "this" keyword?**

    this.memberName;       this(args);       this.methodName(args);       this{ statements; }

**Question 8: What will be the output of the following class?**

**class** **D**

{

**int** d = 5;

**public** **void** **display**()

{

System.out.println(**this**.d);

}

**public** **static** **void** **main** (String[] args)

{

D x = **new** D();

x.display();

}

}

    5        0       Compilation Error

**Question 9: Can "this" be returned from a method?**

    Yes        No

**Question 10: this(args); can only be the --- statement of a constructor?**

    First        Last       It can't be used in the constructor