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FACULTY OF ENGINEERING & TECHNOLOGY

BCS-503: Object Oriented Techniques

Lecture-20

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OBJECTIVES

In this PPT, you will learn to:

- ❖Implementing Classes in Java
- ❖Methods in classes
- ❖this Keyword

IMPLEMENTING CLASSES IN JAVA

Syntax

```
class <classname> {
        <body of the class>
}
```

where,

class is the keyword used for creating a class,

<classname> is the name of the class, and

<body of the class> consists of declaration of attributes and methods.

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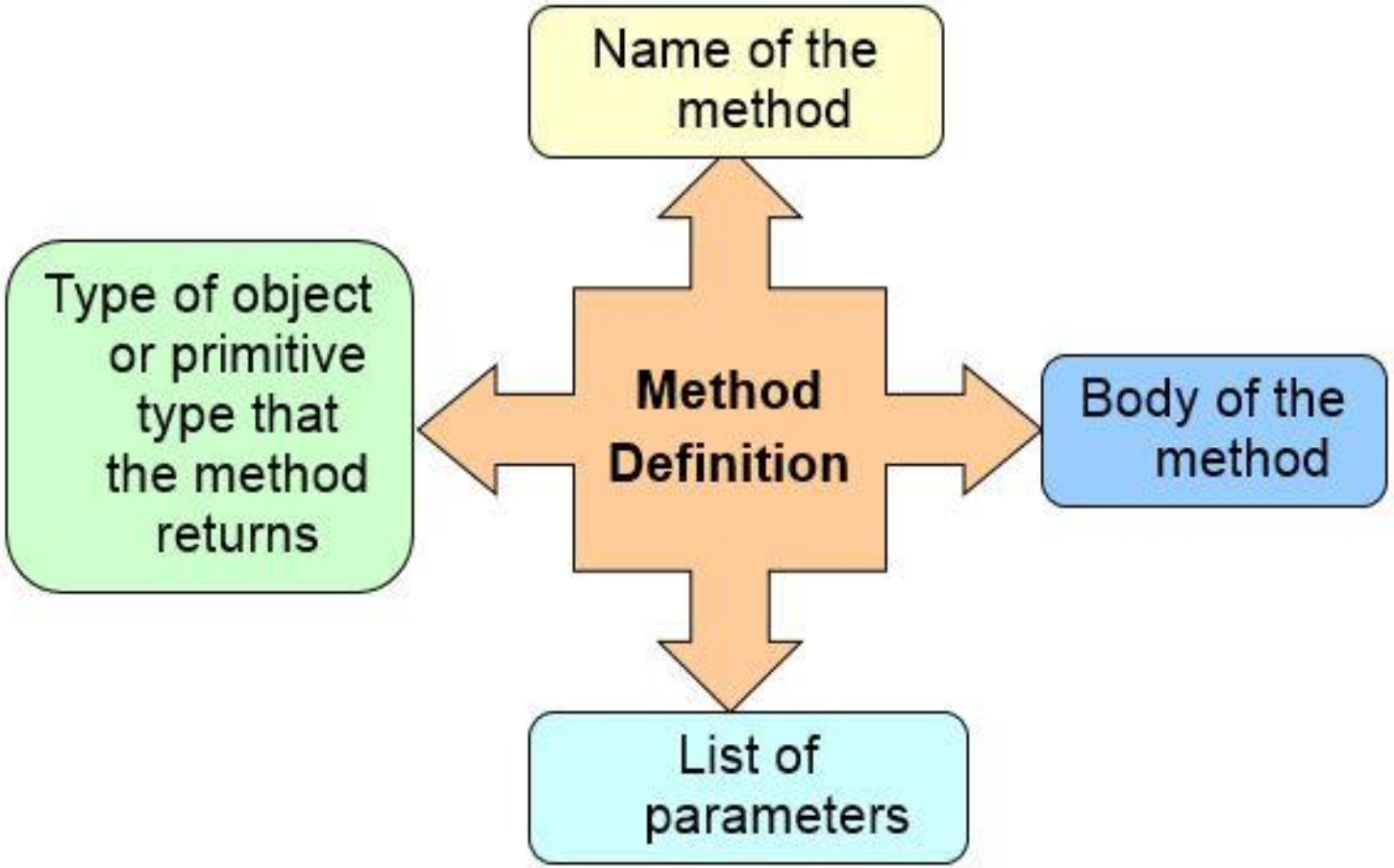
METHODS IN CLASSES



METHODS IN CLASSES (Contd.)

Syntax

```
<returntype> <methodname> (<type1> <arg1>, <type2> <arg3,…) {
                                <set of statements>
}
```

where,

returntype is the data type of the value returned by the method,

<methodname> is the user-defined name of the method, and method's parameter list is a set of variable declarations.

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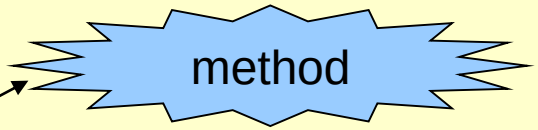
METHODS IN CLASSES (Contd.)

```
class Book {
  String bookName;
  String authorName;
   int nopages;
   boolean available;
  void isAvailable() {
     if(available == true)
           System.out.println("The Book is
  available");
  }
…
```



METHODS IN CLASSES (Contd.)

- Methods are accessed using dot notation.
- Object whose method is called is on the left of the dot, while the name of the method is on the right.
- **For Example,**

  Obj.isAvailable();

- Java provides class methods, which are similar to instance methods.
- Class method declaration is preceded with a static keyword**.**

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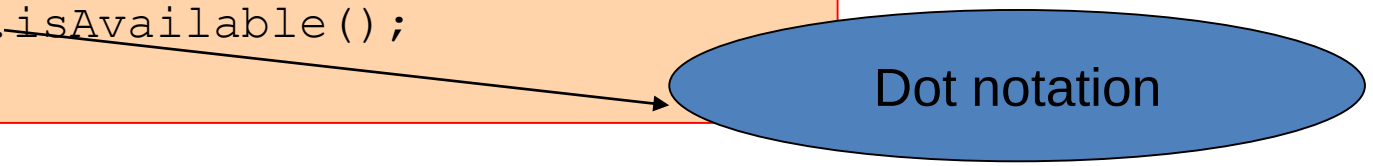
METHODS IN CLASSES (Contd.)

```
class Book {
  String bookName;
  String authorName;
   int nopages;
   boolean available;
}
```

```
  static void isAvailable() {
     if(available == true)
          System.out.println("The Book is
  available");
  }
```

```
Book objBook = new Book();
objBook.isAvailable();
…..
```



this KEYWORD

- Used inside any instance method to refer to the current object.
- The value of this refers to the object on which the current method has been called.
- The this keyword can be used where a reference to an object of the current class type is required.

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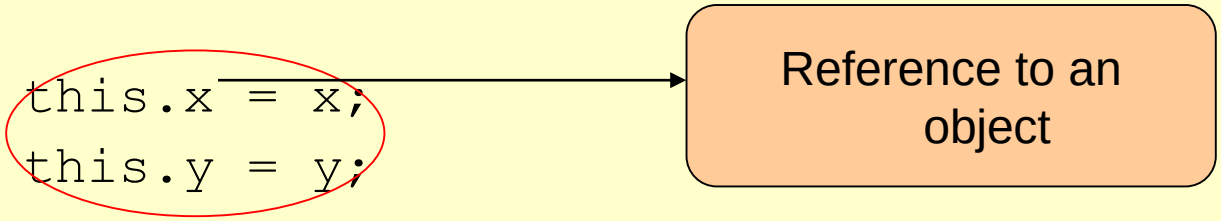
EXAMPLE OF this KEYWORD

```
class pixel {
     int x,y;
     void init (int x, int y)
     {
        this.x = x;
        this.y = y;
     }
}

public static void main (String args[])
    {
      pixel p = new pixel();
      p.init (4,3);
    }
```



The program initializes x = 4 and y = 3.

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Multiple Choice Question:

Q1. What is the return type of a method that does not return any value?

a) int

b) float

c) void

d) double

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Multiple Choice Question:

Q2. Which of this statement is incorrect?

a) All object of a class are allotted memory for the all the variables defined in the class

b) If a function is defined public it can be accessed by object of other class by inheritation

c) main() method must be made public

d) All object of a class are allotted memory for the methods defined in the class

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Multiple Choice Question:

Q3. Which of these data type can be used for a method having a return statement in it?

a) void

b) int

c) float

d) both int and float

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Multiple Choice Question:

Q4. What is Recursion in Java?

a) Recursion is a class

b) Recursion is a process of defining a method that calls other methods repeatedly

c) Recursion is a process of defining a method that calls itself repeatedly

d) Recursion is a process of defining a method that calls other methods which in turn call again this method

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Multiple Choice Question:

Q5. Which of these is not a correct statement?

a) A recursive method must have a base case

b) Recursion always uses stack

c) Recursive methods are faster that programmers written loop to call the function repeatedly using a stack

d) Recursion is managed by Java Runtime environment

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Summary

In this PPT, you learned that:

- The variables and methods of a class are accessed by the instances of that class.
- Dot notation is used to access members of an object.

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