



RAMA UNIVERSITY

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FACULTY OF ENGINEERING & TECHNOLOGY

BCS-503: Object Oriented Techniques

Lecture-21

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OBJECTIVES

In this PPT, you will learn to:

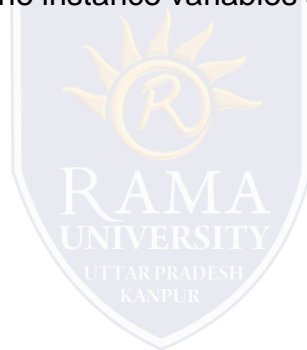
❖ **Constructors**

❖ **Rules for creating Java constructor**



CONSTRUCTORS

- Method invoked whenever an instance of a given class is created.
- Same name as the class and no return type.
- Java allocates memory for the object, initializes the instance variables and calls the constructor methods.



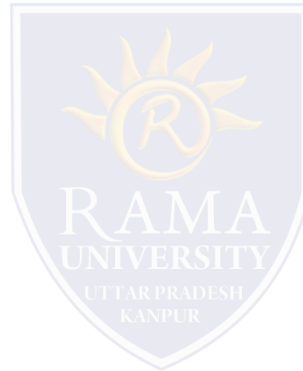
RULES FOR CREATING JAVA CONSTRUCTOR

- Constructor name must be the same as its class name
- A Constructor must have no explicit return type
- A Java constructor cannot be abstract, static, final, and synchronized



TYPES OF CONSTRUCTOR

- **Two types of constructors**
 - Parameterized constructors
 - Implicit constructors



CONSTRUCTORS (Contd.)

Example of Parameterized Constructors

```
Sdate(int m,int d,int y) {  
    month=m;  
    day=d;  
    year=y;  
    System.out.println("The Date is " + m + "/" + d  
+ "/" + y + ".");  
}
```

Parameterized
Constructor

```
public static void main(String args[])  
{  
    Sdate S1,S2;  
    S1=new Sdate(11,27,1969);  
    S2=new Sdate(3,3,1973);  
}
```

CONSTRUCTORS (Contd.)

Example of Implicit Constructors

```
Sdate ()  
{  
    month=11;  
    day=27;  
    year=1969;  
}
```

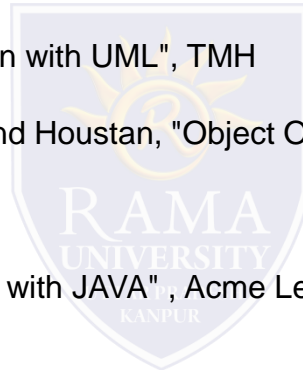


Implicit Constructors

```
public static void main(String args[])  
{  
    Sdate S1,S2;  
    S1=new Sdate();  
    S2=new Sdate();  
}
```

REFERENCES

1. James Rumbaugh et al, "Object Oriented Modeling and Design", PHI
2. Grady Booch, James Rumbaugh, Ivar Jacobson, "The Unified Modeling Language User Guide", Pearson Education
3. Naughton, Schildt, "The Complete Reference JAVA2", TMH
4. Mark Priestley "Practical Object-Oriented Design with UML", TMH
5. Booch, Maksimchuk, Engle, Young, Conallen and Houston, "Object Oriented Analysis and Design with Applications", Pearson Education
6. Pandey, Tiwari, " Object Oriented Programming with JAVA" , Acme Learning
7. <https://www.javatpoint.com/java-tutorial>
8. <https://www.tutorialspoint.com/java/index.htm>
9. https://www.tutorialspoint.com/object_oriented_analysis_design/index.htm
10. <https://www.slideshare.net/niitstudentcare/>

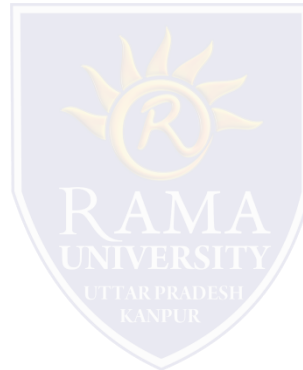


MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q1. What is the return type of Constructors?

- a) int
- b) float
- c) void
- d) none of the mentioned

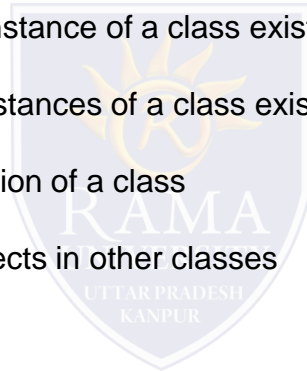


MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q2. What is true about private constructor?

- a) Private constructor ensures only one instance of a class exist at any point of time
- b) Private constructor ensures multiple instances of a class exist at any point of time
- c) Private constructor eases the instantiation of a class
- d) Private constructor allows creating objects in other classes



MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q3. What is false about constructor?

- a) Constructors cannot be synchronized in Java
- b) Java does not provide default copy constructor
- c) Constructor can be overloaded
- d) "this" and "super" can be used in a constructor



MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q4. What is true about constructor?

- a) It can contain return type
- b) It can take any number of parameters
- c) It can have any non access modifiers
- d) Constructor cannot throw an exception

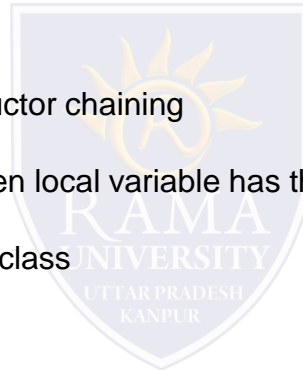


MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q5. What is not the use of “this” keyword in Java?

- a) Passing itself to another method
- b) Calling another constructor in constructor chaining
- c) Referring to the instance variable when local variable has the same name
- d) Passing itself to method of the same class



Summary

In this PPT, you learned that:

- A constructor initializes an object when created.

