FACULTY OF ENGINEERING & TECHNOLOGY

BCS-503: Object Oriented Techniques

Lecture-27

Preeti Singh
Computer Science & Engineering

OBJECTIVES

In this PPT, you will learn to:

❖ **Explain String Handling**

❖ **Creating String Objects**

❖ **Understanding the Immutability**

❖ **String Literal & String Constant Pool**

❖ **Strings Methods**

▪A sequence of characters is handled in Java by 3 classes:-
        java.lang.String
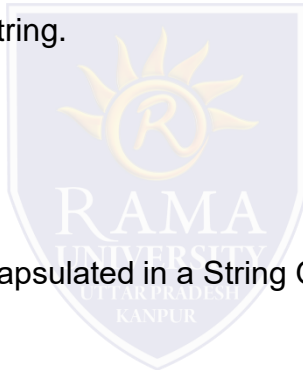   java.lang.StringBuffer
        java.lang.StringBuilder

▪Strings in Java is not merely a sequence of characters.

▪Strings are immutable objects of type java.lang.String.

Meaning of Immutability :-

We can't change the sequence of Characters encapsulated in a String Object. Each operation on that object will produce a new String object.
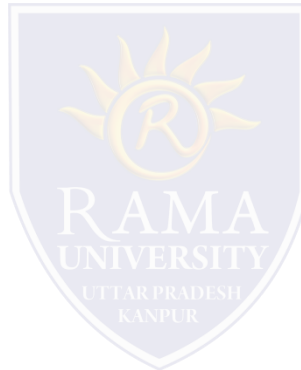
Ways of Creating String Objects

Using new Keyword
        String s1 = new String();
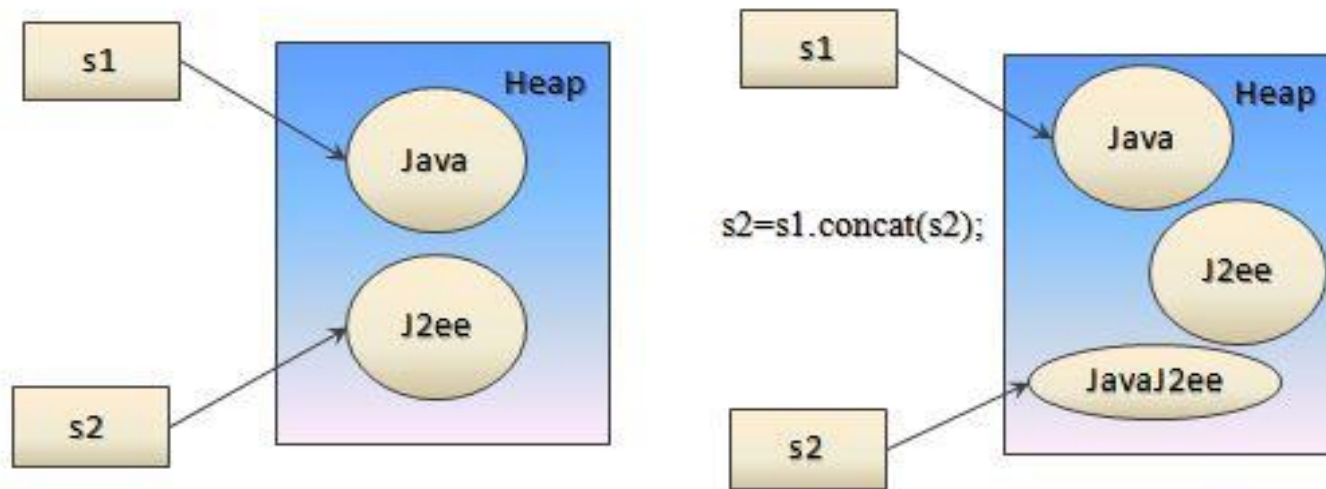   String s2 = new String("Java");
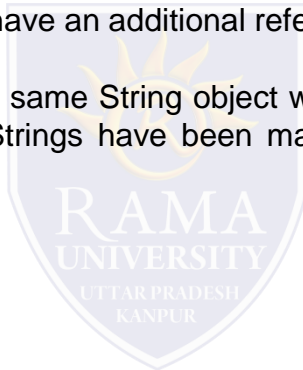
Using String literal
        String s3 = "J2EE"

▪String s1 = new String("Java");
▪String s2 = new String("J2ee");

▪Which one was immutable? String reference variable or String Object itself.

▪Count the total no. of objects created. How many String objects can be referred to by our application? How many are missing?

STRING LITERAL & STRING CONSTANT POOL

▪It a special memory area set aside by JVM to make Java more memory efficient.

▪When a String literal is encountered, the pool is checked to see if an identical String already exists. If it's there, no new String literal object is created, we'll simply have an additional reference to the same existing object.

▪Now, if several reference variables refer to the same String object without even knowing it. It would be very bad if anyone could change the String's value. So Strings have been made immutable and java.lang.String has been declared final.

Working with Strings
 Using public methods defined in the java.lang.String

public char charAt(int index)

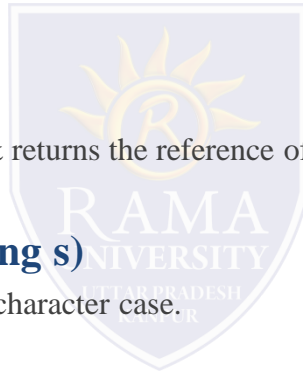returns the character with the index specified.

public String concat(String s)

concatenates s at the end of the string invoked & returns the reference of new String Object.

public Boolean equalsIgnoreCase(String s)

Compares 2 String Objects irrespective of their character case.

public int length()

returns the no. of characters of the character sequence encapsulated in the string object.

REFERENCES

1. James Rumbaughet. 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 Houstan, "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/
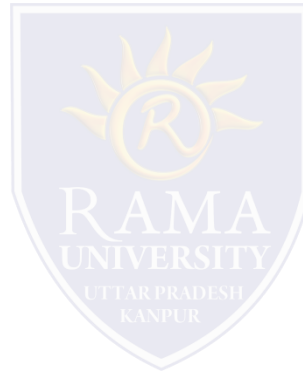
Multiple Choice Question:

Q1. Which of this method of class String is used to obtain a length of String object?
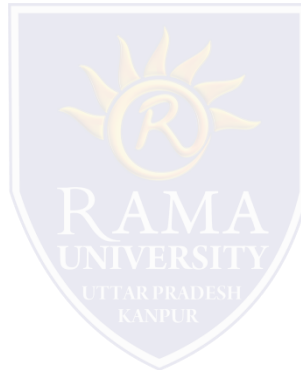
a) get()

b) Sizeof()

c) lengthof()

d) length()

Multiple Choice Question:

Q2. Which of these method of class String is used to extract a single character from a String object?

a) CHARAT()

b) chatat()

c) charAt()

d) ChatAt()

Multiple Choice Question:

Q3. Which of these constructors is used to create an empty String object?

a) String()
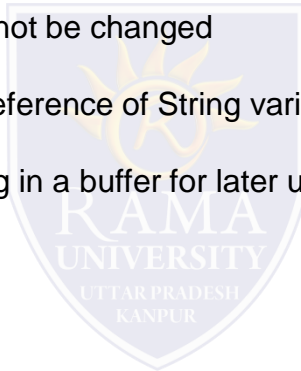
b) String(void)

c) String(0)

d) None of the mentioned

Multiple Choice Question:

Q4. Which of these is an incorrect statement?

a) String objects are immutable, they cannot be changed

b) String object can point to some other reference of String variable

c) StringBuffer class is used to store string in a buffer for later use
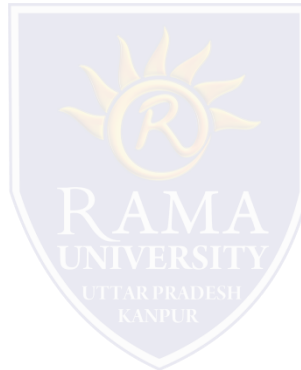
d) None of the mentioned

Multiple Choice Question:

Q5. Which of these class is superclass of String and StringBuffer class?

a) java.util

b) java.lang

c) ArrayList

d) None of the mentioned

In this PPT, you learned that:

➤ What is String Handling.

➤ Define String literal & string constant pool

➤ Strings methods