**G. H. RAISONI COLLEGE OF ENGG., NAGPUR**

**(An Autonomous Institute)**

**Department of Computer Science & Engg.**



**Date: 26-08-2021**

**Practical Subject: Java Programming**

**Session: 2021-22**

**Student Details:**

| **Roll Number** | 44 |
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| **Semester** | 9th |
| **Section** | A |
| **Batch** | CSE |

**Practical Details: Practical Number-4**

| Practical Aim | Design,develop and implement the concepts of function overloading and function overriding. |
| --- | --- |
| Theory & Syntax | Method Overloading in Java:-  Different ways to overload the method  By changing the no. of arguments  By changing the datatype  Why method overloading is not possible by changing the return type  Can we overload the main method  method overloading with Type Promotion  If a class has multiple methods having same name but different in parameters, it is known as Method Overloading.  If we have to perform only one operation, having same name of the methods increases the readability of the program.  Suppose you have to perform addition of the given numbers but there can be any number of arguments, if you write the method such as a(int,int) for two parameters, and b(int,int,int) for three parameters then it may be difficult for you as well as other programmers to understand the behavior of the method because its name differs.  Advantage of method overloading  Method overloading increases the readability of the program.  Different ways to overload the method  There are two ways to overload the method in java  By changing number of arguments  By changing the data type  Method Overriding in Java:-  Understanding the problem without method overriding  Can we override the static method  Method overloading vs. method overriding  If subclass (child class) has the same method as declared in the parent class, it is known as method overriding in Java.  In other words, If a subclass provides the specific implementation of the method that has been declared by one of its parent class, it is known as method overriding.  Usage of Java Method Overriding  Method overriding is used to provide the specific implementation of a method which is already provided by its superclass.  Method overriding is used for runtime polymorphism  Rules for Java Method Overriding  The method must have the same name as in the parent class  The method must have the same parameter as in the parent class.  There must be an IS-A relationship (inheritance). |
| Program | public class overloading {  public static void show(int int1){  System.out.println("single integer "+ int1);  }  public static void show(int int1,int int2){  System.out.println("arguments overload two integers "+int1+ " and " + int2);  }  public static void show(String arg){  System.out.println("type overload string "+arg);  }  public static void main(String args[]){  show(5);  show(6,7);  show("anand");  }  }  public class vehical {  void run(){  System.out.println("run function from original class");  }  public static void main(String args[]){  }  };  class bike extends vehical{  public static void main(String args[]){  bike obj = new bike();  obj.run();  }  }  class bike2 extends vehical{  void run(){  System.out.println("overrided run function");  }  public static void main(String args[]){  bike2 over = new bike2();  over.run();  }  } |
| Output |  |
| Conclusion | Learned and Practiced the concept of Method Overloading and Method Overriding in Java. |