SESSION12PROGRAMS(String/TypeCasting/Wrapper Classes/MultiThreading)

Program 1 String Example

```
1. public class StringExample{
2. public static void main(String args[]){
3. String s1="java";//creating string by Java string literal
4. char ch[]={'s','t','r','i','n','g','s'};
5. String s2=new String(ch);//converting char array to string
6. String s3=new String("example");//creating Java string by new keyword
7. System.out.println(s1);
8. System.out.println(s2);
9. System.out.println(s3);
10. }}
```

Program2 Test immutable string

```
1. class Testimmutablestring1{
2.  public static void main(String args[]){
3.    String s="Sachin";
4.    s.concat(" Tendulkar");
5.    System.out.println(s);
6.  }
7. }
```

Program3 StringComparison

```
1. class Teststringcomparison1{
2.  public static void main(String args[]){
3.    String s1="Sachin";
4.    String s2="Sachin";
5.    String s3=new String("Sachin");
6.    String s4="Saurav";
7.    System.out.println(s1.equals(s2));//true
8.    System.out.println(s1.equals(s3));//true
9.    System.out.println(s1.equals(s4));//false
10. }
11.}
```

Program4 StringConcatenation

```
1. class TestStringConcatenation1{
2.  public static void main(String args[]){
3.    String s="Sachin"+" Tendulkar";
4.    System.out.println(s);//Sachin Tendulkar
5.    String s1=50+30+"Sachin"+40+40;
6.    System.out.println(s1);//80Sachin4040
7.    String s3=s.concat(s1);
8.    System.out.println(s3);//Sachin Tendulkar80Sachin4040
9.
10. }
11.}
```

Type Casting(Primitive Data Types)

- **Widening Casting** (automatically) - converting a smaller type to a larger type size
  byte -> short -> char -> int -> long -> float -> double
- **Narrowing Casting** (manually) - converting a larger type to a smaller size type
  double -> float -> long -> int -> char -> short -> byte

```
public class Main {
  public static void main(String[] args) {
    int myInt = 9;
    double myDouble = myInt; // Automatic casting: int to double

    System.out.println(myInt);      // Outputs 9
    System.out.println(myDouble);   // Outputs 9.0
  }
}
```

```
public class Main {
  public static void main(String[] args) {
    double myDouble = 9.78d;
    int myInt = (int) myDouble; // Manual casting: double to int

    System.out.println(myDouble);   // Outputs 9.78
    System.out.println(myInt);      // Outputs 9
```

Class Type Casting(Parent/Child Classes)

Typecasting is the assignment of the value of one class type to another class type.

1. **Upcasting** is casting a subtype to a super type in an upward direction to the inheritance tree.

   Parent p = Child c (Implicit casting)

2. **Downcasting** refers to the procedure when subclass type refers to the object of the parent class is known as downcasting.

   Child c=(Child) Parent p
   (Explicit casti

Upcasting Program

```
// Importing input output classes
import java.io.*;

// Class 1
// Parent class
class Parent
{
  // Function
  void show()
  {
    // Print message for this class
    System.out.println("Parent show method is called");
  }
}
```

```
// Class 2
// Child class
class Child extends Parent
  {

    // Overriding existing method of Parent class
    @Override

    // Same Function which will override
    // existing Parent class function
    void show()
    {

    // Print message for this class
    System.out.println("Child show method is called");
    }

  }


// Class3
// Main class
class GFG
{

    // Main driver method
    public static void main(String[] args)
    {
      // Creating a Parent class object
      // but referencing it to a Child class
       Parent obj = new Child();

      // Calling the show() method to execute
       obj.show();
    }
}
```

Downcasting Program

```
// Java Program to illustrate Downcasting
// Importing input output classes
import java.io.*;

// Class 1
// Parent class
class Vehicles {
}

// Class 2
// Child class
class Car extends Vehicles {
    static void method(Vehicles v)
    {
        //
        if (v instanceof Car) {

            // Downcasting
            Car c = (Car)v;

            // Display message
            System.out.println("Downcasting performed");
        }
    }
    // Main driver method
    public static void main(String[] args)
    {
        // Creating an object of Vehicle class
        // and referring it to Car class
        Vehicles v = new Car();
        Car.method(v);
    }
}
```

SESSION 12 ASSIGNMENTS

1. Write a Java program to convert float to int , double to int ,long to int.

2. Write a Java program to create parent class Bank , child class SBI & Main class. In the main class create objects of Bank & SBI class by upcasting .Write method dislayBankdetails in Bank class . Override this method in SBI class with appropriate message. Call dislayBankdetails in main method by objects of Bank & SBI class . Run the application . Observe the Output/Exception

3. Write a program to compare 2 strings , concat 3 strings.

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