CDAC Mumbai PG-DAC August 24

Assignment No- 4

1) Write a program that demonstrates widening conversion from int to double and prints the result.
-->>

```
public class Conversion {

	public static void main1(String[] args) {
		int intNumber = 34;
	    double doubleNumber = intNumber;
	    System.out.println("Integer value: " + intNumber);
	    System.out.println("Double value : " + doubleNumber);
	  }
}
```

2) Create a program that demonstrates narrowing conversion from double to int and prints the result.
-->>

```
public class Conversion1 {
	  public static void main1(String[] args) {
	    double doubleValue = 5.79;
	    int intValue = (int) doubleValue;
	    System.out.println("Original double value: " +
doubleValue);
	    System.out.println("Converted int value: " + intValue);

	}

}
```

3) Write a program that performs arithmetic operations involving different data types (int, double, float) and observes how Java

handles widening conversions automatically.
-->>

```
public class Conversion2 {
        public static void main(String[] args) {
           int intValue = 7;
            double doubleValue = intValue;
             float floatValue = intValue;
           boolean booleanValue = (intValue != 0);
           String stringValue = String.valueOf(intValue);
           System.out.println("Original int value: " + intValue);
           System.out.println("int to double: " + doubleValue);
           System.out.println("int to float: " + floatValue);
           System.out.println("int to boolean: " + booleanValue);
           System.out.println("int to String: " + stringValue);
     }
    }
```

4) Write a Program that demonstrates widening conversion from int to (double,float, boolean, string) and prints the result.
-->>

```
public class WideningConversion {
        public static void main(String[] args) {
           int intValue = 7;
           double doubleValue = 7.17;
           float floatValue = 2.3f;

           double result1 = intValue + doubleValue;
           float result2 = intValue + floatValue;
           double result3 = floatValue + doubleValue;
           System.out.println("int + double = " + result1);
           System.out.println("int + float = " + result2);
           System.out.println("float + double = " + result3);
      }
    }
```

Interview Questions

Note: Write down this interview question on your notebook ,Take a screenshort & Paste that SS in the word document & upload on your Github.
What does the static keyword mean in Java? Explain the difference between static and non-static methods.

- What is the role of the static keyword in the context of memory management.
- Can static methods be overloaded and overridden in Java? Howstatic variables shared across multiple instances of a class?
- What is the significance of the final keyword in Java?
- What are narrowing and widening conversions in Java?
- Provide examples of narrowing and widening conversions between primitive data types.
- How does Java handle potential loss of precision during narrowing conversions?
- Explain the concept of automatic widening conversion in Java.
- What are the implications of narrowing and widening conversions on type compatibility and data loss?