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.

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

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

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

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.

1. What is the role of the static keyword in the context of memory management.

2. Can static methods be overloaded and overridden in Java?Howstatic variables shared across multiple instances of a class?

3. What is the significance of the final keyword in Java?

4. What are narrowing and widening conversions in Java?

5. Provide examples of narrowing and widening conversions between primitive data types.

6. How does Java handle potential loss of precision during narrowing conversions?

7. Explain the concept of automatic widening conversion in Java.

8. What are the implications of narrowing and widening conversions on type compatibility and data loss?

1.) Static defines a field a class level member. which means the field will get memory once when class is loaded and it gets memory in method area.

2.) Static method cannot be overridden as static method belongs to class itself and not it's instance. So there is no instance of the static method to override. We can overload static methods.

3] final keyword in the context of field is used to make value of a variable permanent it cannot be changed later. in case of class final class cannot be inherited but its instance can be created.

4] narrowing is converting from larger size or data type with more information like decimal values to data type with less information there to do it explicitly widening is done automatic by compiler

narrowing	widening
int to byte	float to double
int to short	int to float
short to byte	
double to float	
float to int	

5] Java takes floor value in case of decimal in narrowing.

7] when we try to convert data type with less size, into to data type with larger size, in Java case implicit type casting.

8] no data in widening only size increases.
in narrowing if decimal values are present those get lost during type casting and floor value of the variable takes place.