

CDAC Mumbai PG-DAC August 24

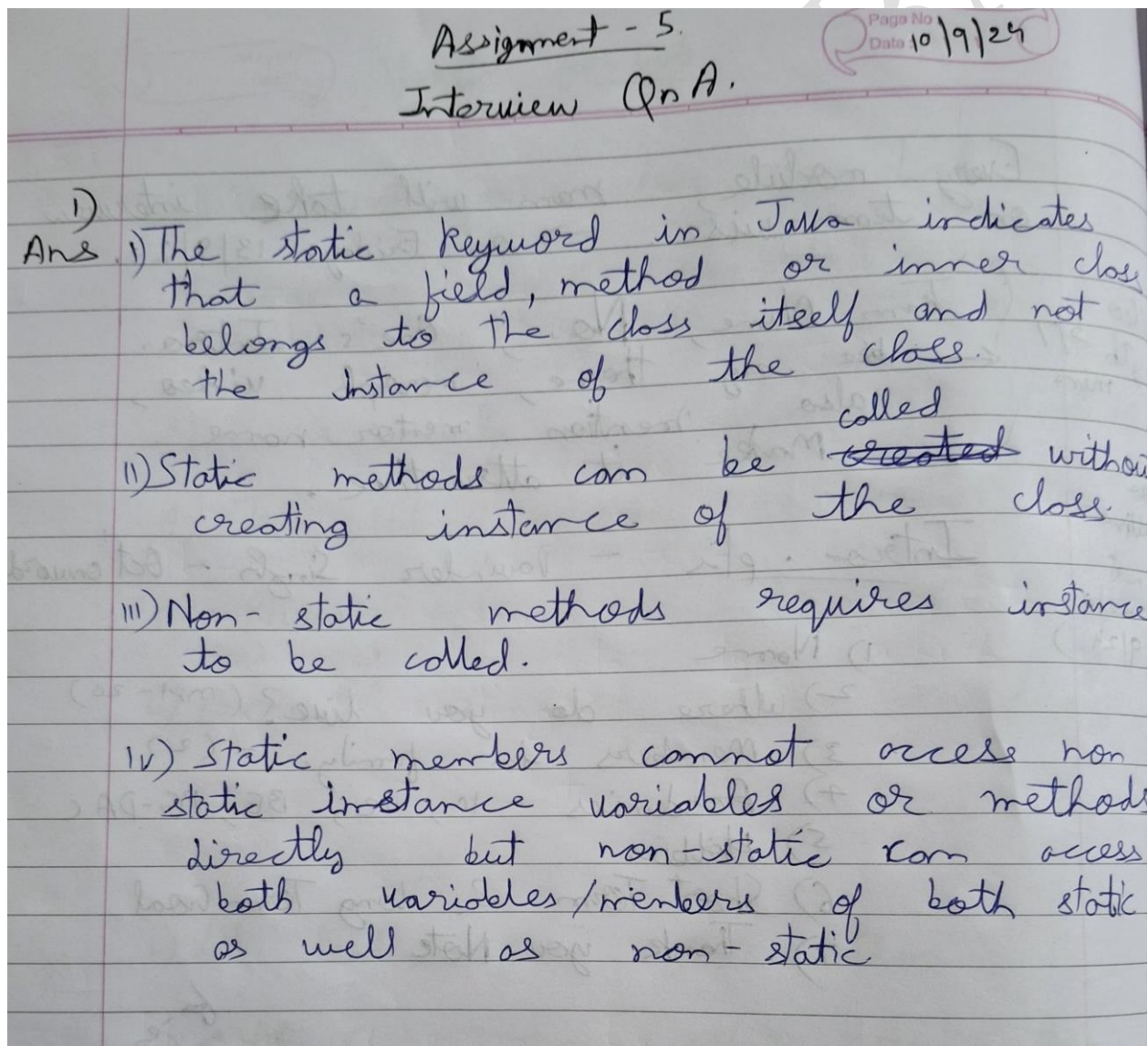
Assignment No- 5

- 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 screenshot & Paste that SS in the word document & upload on your Github.

1. What does the static keyword mean in Java? Explain the difference between static and non-static methods.



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

2)
Ans 1) The static keyword helps in memory management by ensuring that there is only one copy of static variable or method.
ii) They are stored in JVM among all instance of the class.

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

3)
Ans i) Static methods can be overloaded which means you can have multiple static methods with same name, different parameter in the same class.
ii) But they cannot be overridden because method overridden is based on runtime polymorphism, static methods are resolved at run time.

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

4)
Ans Final Keyword:

Final variable - When a variable is asked final, it cannot be assigned or initialized.

Final method - When method is final it cannot be overridden by subclasses.

Final class - When class is marked final, it cannot be extended or subclassed.

5. What are narrowing and widening conversions in Java?

5)
Ans

Widening Conversion -

Conversion from one smaller data type to larger data type which is automatically done by Java.

eg int to double

Narrowing Conversion -

Conversion from one larger data type to smaller data type which requires explicit casting

eg double to int.

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

6)
Ans Widening Conversion Eg.

```
int num = 100;  
double d = num;  
Sop ("Num is" + d);
```

o/p Num is 100

Narrow Conversion Eg

```
double d = 1001.45;  
int i = (num);  
Sop ("Num is" + i);
```

o/p Num is 1001

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

7)
Ans During narrowing conversion, Java requires explicit casting because there is loss of precision.

When larger data type is converted to smaller Java truncates or rounds the data leading to loss.

eg : `double num = 123.456;`
`int i = (int) num;`
`SOP(i);`

o/p → 123

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

8)
Ans Automatic widening conversion occurs when Java converts data type into larger to prevent data loss.

`int a = 100;`
`double b = a;`
`SOP(b);`

o/p 100

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

