1) Explain the components of the JDK.

Assignment-3

1) exeptain the components of the JDK is the Java development kit (JDK), e is a Software development environge ment used to develop Java application source code in byte code, which is the JUM can execute.

Java Runtime environment (JRE)—

Contains libraries, Java untual machine (JVM), other components

necessary to run Java application

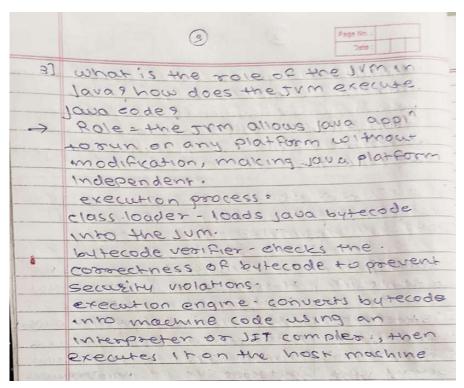
Java virtual machine (JVM), executes

Java debugger (Jdb) - helps in debugging Java applications.

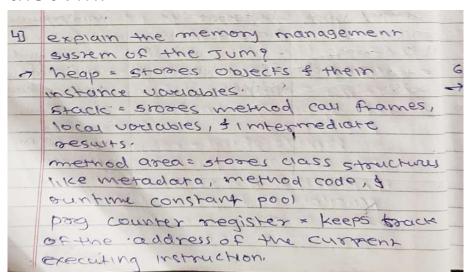
2) Differentiate between JDK, JVM, and JRE.

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3) What is the role of the JVM in Java? & How does the JVM execute Java code?

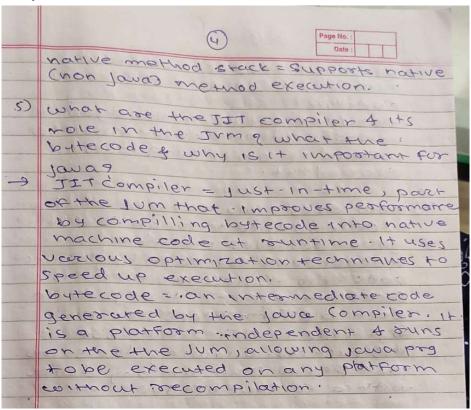


4) Explain the memory management system of the JVM.

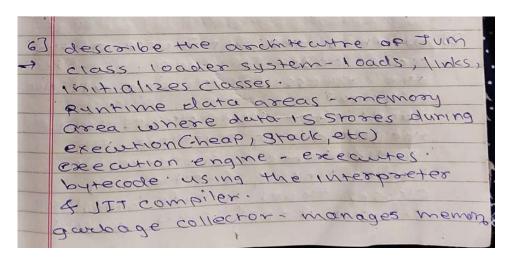


5) What are the JIT compiler and its role in the JVM? What is the bytecode and why is it

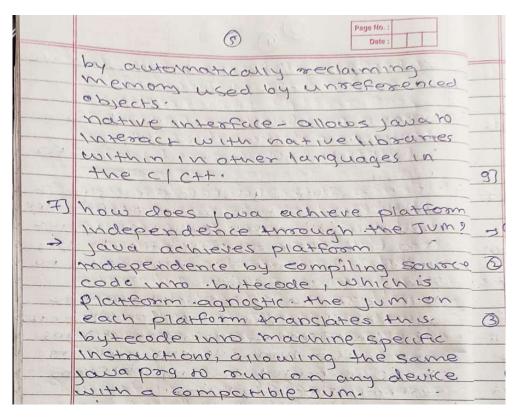
## important for Java?



6) Describe the architecture of the JVM. 7) How does Java achieve platform independence through the JVM?



. 7) How does Java achieve platform independence through the JVM?



8) What is the significance of the class loader in Java? What is the process of garbage collection in Java.?

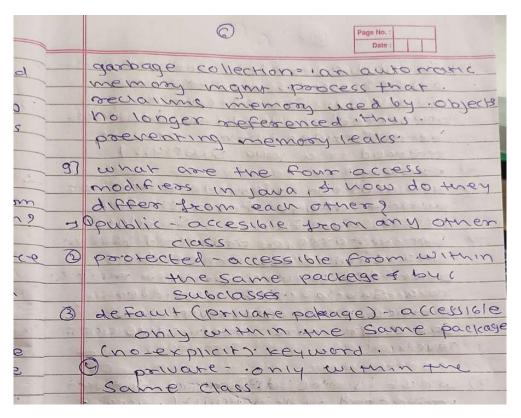
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8] what is the Significance of the class loader in Java? what is the process of garbago collection in Java? what is the process of garbago collection in Java?

Class loader - loads classes Inno the Jum during runtime. He handles three main processes:

loading, linking finitializing

classes types include bootstear
extension of apply class loaders
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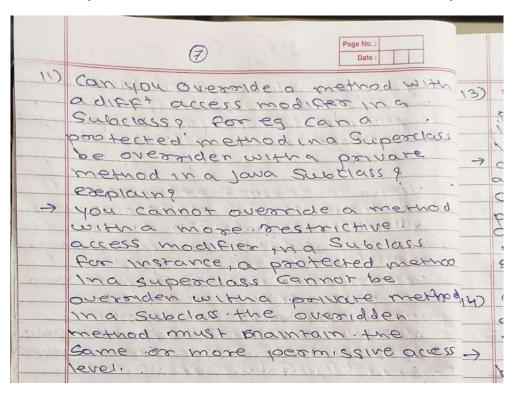
9) What are the four access modifiers in Java, and how do they differ from each other?



10) What is the difference between public, protected, and default access modifiers?

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e	10]	what is the difference between
		public, protected, default access
ion.		manuflers 9
	->	public - members are cellessible
	100	from any class in any package
		protected - members are accesible
		within the same packages.
		subclasses in other packages.
0		setaut- members are accessible
, -		only within classes in the same
		pacicage.

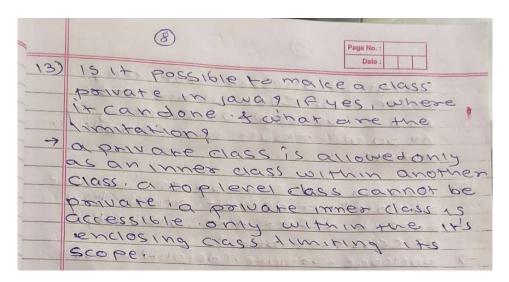
11) Can you override a method with a different access modifier in a subclass? For example, can a protected method in a superclass be overridden with a private method in a subclass? Explain.



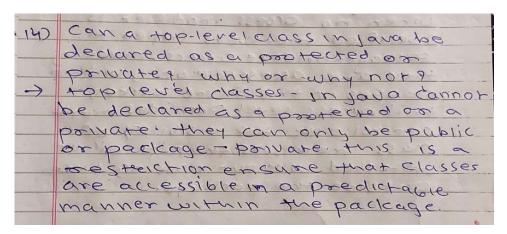
12) What is the difference between protected and default (package-private) access?

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12)	) what is the difference between		
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	protected - accessible within the		
7	same padeage and substagges		
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	attaurit (privade pacicage) - accepte		
	only within the classes or,		
	the same package.		
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13) Is it possible to make a class private in Java? If yes, where can it be done, and what are the limitations?



14) Can a top-level class in Java be declared as protected or private? Why or why not?



15) What happens if you declare a variable or method as private in a class and try to access it from another class within the same package?

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in a class and try to access it from

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package?

if you declare a variable or

method as private in a class it

16) Explain the concept of "package-private" or "default" access. How does it affect the visibility of class members?

