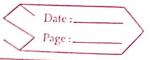
	Name: Frajwal R. Dudhe
	Date:
	Assignment Page:
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and the standard	Interview ORA.
N.	
7	Explain the component of JPK ?
	The Joic (Java Development Kit) is a complete
	Software development envisonment used for
	developing Java application of applet.
	# JDIC Typically includes:
	1. Java Development Tools
+	- Javac, Javap, jstace, jdb etc.
	2: Java API documentation : 1000 - 1000 - 1000
	3. Jana API tid Libraries
Agree .	- rt. jae (byte code)
N ₁	4. Execution Envisonment
	A Victoria
×,	- Java Viztual Machine (IVM)
	S. Code Samples 1131 and 11 the state of the
	- SEC. ZIP (Sousce code)
	The state of the s
2	Differentiate between JDK, JVM, and JRE.
\rightarrow	JDK (Java Development kit)
	- It is a complete development emisonment
	Used to build Java Application.
	- It includes IRE, a compiler (ionac), debugger
	and other tools necessary to development.
	IVM (Java Mithal Machine)
	- It is a Virtual Machine that zuns bytecode
	and allows program to be plattorm
	independent.
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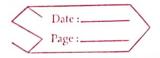
THE PERSON



	- The IVM manages dasks like Memory Managment
	Opplication fun smoothly
ZA.	U .
100	JRE (Java Runfime Envisonment)
	- It is an envisonment to sun I
	\sim 1000 Colonial Co
	There is bot does not conferm of the forman
	(of our controller
	sales from the sales when the sales were the
,	In Summary. — JPK = JRE + development Tools.
	- JOK = JRE + development Tools.
	- IRE = JVM + Librusies Deeded to zun James 1
-	- Juna = The engine that sun Jana byterade
	and convert violepine Dulling colo
	of the the contract of the con
3)	Whey is sole of IVM in Jang & How does Jum
	exercite Jara (ode)
-	Java Vistual Machine (IVM) is I cert component of
+	Java Platform that enables " Write once, Fun anywhere
+	Philosophy. Its -main main fole is to execute
+	Java paterage and convert into machine newer code
+	Which makes I and application platform - independent
+	Ivm manage memory allocation and garbage
	rollection. and prevents memory deale.
+	IVM is also perform optimization as it
+	includes JIT (Just In Time) Compilertion. which
1	improves runtme compilation.

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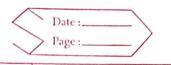
310	
- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	# The Process of how the Jum executes
	Java code involves following steps:
	El 4100 erre e ville de la constitue de la
	(ompilation:
	The Java compiled (javac) compile the Source
11111	(ode (ojova files) into platform independent
	(· Closs 71/e).
407.00	strange assertions for restricted grant let,
2.	class Loading:
	The Jums classLoader subsystem loads the
	bytecode into memory as needed. The classloader
_	is zesponsible tos finding, loading and linking
A STAN STAN	the class files during program execution.
1	orall next and anthony part of execution.
3.	Bytecode resilication:
	The Jums Byterode resifier checks the Byterode
1-1-VE	to rensure it is valid and does not violate
	Jana's Secusity Restrictions.
	0 1111117
-4.	Execution
	Interpreted as a Time the tollecode using either an
	Interpreter of a Just-In-Time (JIT) (ompiler.
Jakan and	LITE & P. 2048 - 1-16 (11)
7-4-1-1-1	translating it into machine specific
1 1 2	- 271 (ombilés : Obtimises bestrament
	(0)(1)(1)(0)
	Dative warrier code onlich greecht sweemen
1 1 1 1 1 1 1 1 1 1	pt brocesons.
The second secon	Shrikrupa



5	Memosy Management and Graphage Collection:
3	The Try manages memory using a Heap (for
	The Jum manages memory using a Heap (for objects) and Stouc (for method (all). The Churchage (allector automatically reclaims memory, occupied by objects that are no donger in use.
	collector automatically reclaims memory, occupied by
	objects that are no donger in use.
14 = 1	
6.	Execution Engine:
21	The execution engines in Jum converts bytecode
	into native machine code and execute it.
9 III	and the second of the second o
4)	Explain Memory Management System of Jum?
	Court of the second of the sec
->	The Jum's memory munagement System is responsible.
in a	for e-fficiently allocating managing and Beclaiming
9	memory for Java application. It is critical for
	The Jum's memory management System is zesponsible for efficiently auacating managing and Reclaiming memory for Java application. It is critical for pertormance and Stability of Java program.
	JUM Memory Areas:
1.	Heap memosy:
	- The heap is where an jona object are stored
	dusing the Phogram execution
	- It is divided into two moun parts.
	Young Generation & old Greneration.
	- Young generation contains newly created objects
	- old generation contour dany drued objects.
	many the second of the second
	Control Control Control of Control
	en les de la companya de la proposición de la companya de la companya de la companya de la companya de la comp

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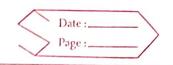
2	. Stack mirmory:
	The stack memory is used for storing
The least of the l	method caus, voicel vosiables and zetenences
11	They cans, doing bosialies on
	to objects in heap.
3	Millar
	11-442/2006
×1	- Metaspace Stoses class metadata, method data
	and constants like string diterals.
	The runner of breeze of the representation of the reserve the
<u>.</u>	1-20g2am (ounter Register.
	I teach thread has its own pe regulter.
~	which keep track of the address of next
- max	instauction de be executed.
	Land the state of
	What are the III compilers and sole in IVMI?
	that is the bytecode and why it is impostant
	for Java &
100	
\sim \longrightarrow	The Truck to Time Course
~	The 'Just in Time (ompiles, is exitical boat in
1, 0	Jum that improves the performance in Jana
	application by converting paterade into native
	machine code at runtime
	21/27 Gran var all laboration de la labo
	1. Pestasmance Optimization.
	The JIT compiles optimizes the execution
-	2 Jane 1 colean pt consoling it 1 don't
	executed bosphou of patecode loto some
	(ude. This seduces overhead of interpreting
1	the bytecode repeatedly regulting in fast
r	execution.
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	2. Dynamic Compilation.
	Trestead of compiler parks of precions that are
	the III compiles compiles parks of bytecode that are
	frequently executed. Ahis minimizing stortup delays.
L	
	3. In line Expansion and Loop unsalling.
-	It applies techniques tike in living wethod come
-	and doop unsolling which reduces method involution
	and doop untolling which reduces method involution overshead and improves performance in terretive doops.
	# Byterode : It is an intermediate, picutosm-
	underendent code deveranted pt Janor combiles
	(javac) when sousce rode is compiled. Bytecode is
	stored in (.closs) file and is executed by Jum.
	a the little temperature grants, any many grants must be
)	How does Java achieve Platform independent through
	the July 100 hours from
	All the second of the second o
	Jana eichieves plattosm independence through the Jung by compiling Source code into bytecode, which is plattosm - neutral. This bytecode can sun on any
_	by compiling source code into bytecode, which is
_	platform - newtral. This bytecode can sun on ony
	machine that have a JVM regardess of underlying
	maunine that have a JVM regardess at underlying. Operating System or hardware. The JVM interpretes
	and execute bytecode, allowing Jura application to
	ten consistency across different platforms.
-	

	Date:	\
\supset	Page:	_/
		~

8)	What is Southern as how London in James 9
330.3	What is Significance of class Loader in Jane 9
70 y ->	The relative to a dunamically
deretal	The class Loader in Java zesponsible for dynamically
	and loading classes into I um out funtine it finds
	and douds required class file and ensure that
- 11155	bundles 1.
Marin	Preparation and resolution of classes. This dynamic
296 1	thouses and Resolution of classes. This dynamic
	clouding supports Java Heribility and Modulusity.
9)	
(1)	Process of Granbage Collection in Java 1
1014-	Grasbage Collection in Java is automic process of
	10/41/024 PA- Identifying and 1
Program Lail	
V I I I	
dia.	one ornesornou (40 to the same
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	memory in the heap.
[0]	What are faux acress make
torn	what are four access modifiens in jora and how they differs trom each others?
	Troin each others?
\rightarrow	The four access modifies in Jova are:
	1. public: Accesible trom anywhere in program
	actoss an package in program
	2. Private: Accesible only within same class.
	not visible to other clauses
	3. Protected: Accesible within Same package and
	by subclasses, even in different
• (backades
	Shrikrupa



	4. Detault: Accesible only within the some pockage. also known as package private access.
	also known as package private access.
71)	Con you overside a method with a different access
	modifices in Subclass ,
7	For ex: (an a protected method in a superclass
	can be orestiden with private method in Subcloss ?
	the property of bird the months property
\rightarrow	No, you cannot overside in a subclass with mose
	restrictive access modifies.
	for ex: It a method in Superclass is protected. You
	connot overside it in a subcloss with private acress
	modifies, es it would respict access to the method
	Lus thes. The state of the stat
73)	It is possible to make a class private in Jana,
	It yes, where can it be done and what are limitations
	and the appropriate growing the engineering the section of
\rightarrow	No, it is not possible to make top level class private in.
	Java. However the inner classes (nested classes)
	can be declared private.
	- The Private inner class cannot be accessed from
	outside the outer class. This limits its visibility.
19 M	strictly to be enclosing class, making it usestar.
4	Jue encapsulation helper functionally that Should not
	be exposed outside the outer class.
	Carpone Commencer

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Date:	
Page:	- 1

	con a Top level class in Java be declared
i cit	as projected as private , why as why not?
	The second of
	No top level class in java cannot be declased
	as protected or private, Access modifiers like
	Projected and private are meant to confect
	member level access within the class too package
	Top level classes can only be declased as public
	OF with default access ensuring they are visible
They -	crithin the package of to world Espectively.
ls as	When it you declare variable as method as
	Onother class within some package
	Source Tackede
	It you declare variable or method as Private,
<u> </u>	The class it cannot be accessed from
	Unother class within the same Parkage Perrale
1 M. Maria	Truly are only cicesine within the clare
	where they are declared
16)	Explain the cross of
	Explored the concept of bacicage - being, as
12.5	of class members
100 h	The property of the second sec
\rightarrow	Package-Private or defaut access means the classes
	The mille only within the same parties
	IF ZESPICK the access From outside the parsons
	pat annows unsertsicked acress pt other claring
	outhin the same backage
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