ASSIGNMENT - 1

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1. What is Java?

- Java is an object-oriented, class-based, concurrent, secured and general-purpose computer-programming language.

- Java follows the principle of WORA (Write Once, Run Anywhere) and is platform-independent.

2. Explain all features in one or two lines?

- Platform independent, Portable, Simple, Secure, Portable,Multi threaded , Robust language, Strongly typed programming language.

3. In which folder can we see the javac,Java,javah,javarmi, commands?

- In JDK_HOME\bin folder,

4. what all the environmental variables To set to run the java programs through command prompt?

- JAVA_HOME: stores location of the JDK's installation directory. ...

- PATH: stores paths of directories where the operating system will look, to launch the requested programs quickly.

5. What are the rules for naming the class?

- Class name should be Start with upper camel case

- It should not start with any special characters and number Except "_"and "$ "

- White space and keywords are not allowed

6. Which is main entry point of type of java program?

- To define starting point and ending point to the application execution in java we have to use main() method.

    public static void main(String args[])

7. What are the components of Java program?:

- Module, Package, Class, Variable, Statement, Method, Constructor, Inner class.

8. What is jvm,jre,jdk?

    JRE = JVM + library classes.

  JDK = JRE + Developer tools.

• Jvm: Java vartual machine

  JVM translates bytecode into native machine code

• Jre: java runtime environment

  JRE provides Java class libraries, Java Virtual Machine (JVM)

• Jdk: java developer kit

  JDK is a kit(or package) that includes Development Tools and JRE

9. Explain the components of compiler environment and run time environment?

Components of Compile-time environment :

  a. Source file

  b. Compiler

  c. Class file

Components of Runtime environment :

  a. JVM.(JIT, class loader + Bytecode verifier)

  b. Java API.

  c. OS and Hardware

10. what is JIT?

- The JIT compiler helps improve the performance of Java programs by compiling bytecodes into native machine code at run time.

11. What are the difference type memories of jvm?

- Method area
- Heap memory
- Stack memory
- PC Registers
- Native method stack

12. In which area class is stored?

- Method area

13. In which area object is stored?

- Heap memory

14. Why we do call Java is simple?

- Java applications will take less memory and less execution time.

- Java has removed all most all the confusion oriented features like pointers,multiple inheritance,.....

- Java is using all the simplified syntaxes from C and C++.

15. Why Java is platform independent?

- Java is a Plat-form Independent (or) OS independent Programming Language.

- The Byte-Code file (or) Class File (or) Executable File which is generated after Successful Compilation Can be Executed On any Operation System all we need to have is the JVM [Java Virtual Machine].

- For Example - am Writing One Java Program in Windows OS and I can Directly Execute in MAC OS Without Changing the Source Code.

16. Is JVM platform independent?

- The JVM is not platform independent. Java Virtual Machine (JVM) provides the environment to execute the java file(. Class file). So at the end it's depends on your kernel , and kernel is differ from OS (Operating System) to OS.

17. Is Java case sensitive?

- Yes, Java is a case-sensitive language, which means in code showData and showdata are two different variables.

18. Is Java complete object oriented programming language?

- No, Java is not 100% object oriented programming language because it contains primitive data types.

- To overcome it **wrapper classes** are introduced, which wraps the primitive data type into object of the class.