

08.04.20

Tutorial

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Q.) Write notes on

- (i) Java card
- (ii) J2ME

Answers

(i) Java Card

- ~ Java Card refers to a software technology that allows Java-based application on small memory footprint devices (like smart cards)
- ~ Java Card aims at defining a smart card computing environment allowing the same Java Card applets to run on different smart cards.
- ~ It is the tiniest of the Java platforms targeted for embedded devices, and is wide used in SIM and ATM cards.
- ~ The main goals of Java Card are security and portability.
- ~ Thus Java Card uses a Java Card Virtual machine to compile and run bytecode in it.

- ~ Java Card implements various aspects of technology like Applet Firewall, Data Encapsulation, Cryptography etc.
- ~ Further since these smart cards are powered externally; they rely on persistent memory, applet isolation and atomicity.
- ~ The latest release is the beta version of JavaCard 3.0 in the year 2008.

(ii) J2ME - Java 2 Platform, Micro Edition

- ~ It is a computing platform for development and deployment of portable code for embedded & mobile devices.
- ~ The mobile/embedded devices include micro-controllers, sensors, gateways, mobile phones, personal digital assistants, TV set-top boxes, printers etc.
- ~ For all these and more J2ME naturally uses Java programming language.
- ~ Designed originally by Sun Microsystems and later on acquired by Oracle, J2ME is the second youngest in the part of Java Software family.

- ~ Today there are more than 2.1 billion J2ME enabled phones and PDAs, but as of 2008 all Java ME platform is currently restricted to JRE (Java Runtime Environment) 1.3.
- ~ Starting from Java ME 3.0 SDK, NetBeans supports them in a single IDE.
- ~ Third party implementations are widely used by Windows Mobile Devices. The Linux-based Android OS uses a proprietary version of Java that is similar but not identical to J2ME.