**Java Technology**

Java technology is both a programming language and a platform. The Java programming language is a high-level language that can be characterized by all of the following buzzwords:

* Simple
* Object oriented
* Distributed
* Multithreaded
* Dynamic
* Architecture neutral
* Portable
* High performance
* Robust
* Secure

In the Java programming language, all source code is first written in plain text files ending with the .java extension. Those source files are then compiled into .class files by the javac compiler. A .class file does not contain code that is native to your processor; it instead contains byte codes — the machine language of the Java Virtual Machine1 (Java VM). The java launcher tool then runs the application with an instance of the Java Virtual Machine.

**The Java Platform**

A platform is the hardware or software environment in which a program runs. We've already mentioned some of the most popular platforms like Microsoft Windows, Linux, Solaris OS, and Mac OS. Most platforms can be described as a combination of the operating system and underlying hardware. The Java platform differs from most other platforms in that it's a software-only platform that runs on top of other hardware-based platforms. The Java platform has two components:

* The Java Virtual Machine
* The Java Application Programming Interface (API)

The Java Virtual Machine is the base for the Java platform and is ported onto various hardware-based platforms. The API is a large collection of ready-made software components that provide many useful capabilities. It is grouped into libraries of related classes and interfaces; these libraries are known as packages. The API and Java Virtual Machine insulate the program from the underlying hardware. As a platform-independent environment, the Java platform can be a bit slower than native code. However, advances in compiler and virtual machine technologies are bringing performance close to that of native code without threatening portability. The terms "Java Virtual Machine" and "JVM" mean a Virtual Machine for the Java platform.

The general-purpose, high-level Java programming language is a powerful software platform. Every full implementation of the Java platform gives you the following features:

1. Development Tools: The development tools provide everything you'll need for compiling, running, monitoring, debugging, and documenting your applications. As a new user, the main tools you'll be using are the javac compiler, the java launcher, and the javadoc documentation tool.
2. Application Programming Interface (API): The API provides the core functionality of the Java programming language. It offers a wide array of useful classes ready for use in your own applications. It spans everything from basic objects, to networking and security, to XML generation and database access, and more. The core API is very large.
3. Deployment Technologies: The JDK software provides standard mechanisms such as the Java Web Start software and Java Plug-In software for deploying your applications to end users.
4. User Interface Toolkits: The Swing and Java 2D toolkits make it possible to create sophisticated Graphical User Interfaces (GUIs).
5. Integration Libraries: Integration libraries such as the Java IDL API, JDBC™ API, Java Naming and Directory Interface™ (JNDI) API, Java RMI, and Java Remote Method Invocation over Internet Inter-ORB Protocol Technology (Java RMI-IIOP Technology) enable database access and manipulation of remote objects.

**To Compile and Run our project RACE N CHASE, you'll need:**

* The Java SE Development Kit (JDK 1.5.0 has been used by the developers)
* For Microsoft Windows, Solaris OS, and Linux: Java SE development kits will be available from the owner’s site “www.oracle.com”
* For Mac OS X: developer.apple.com