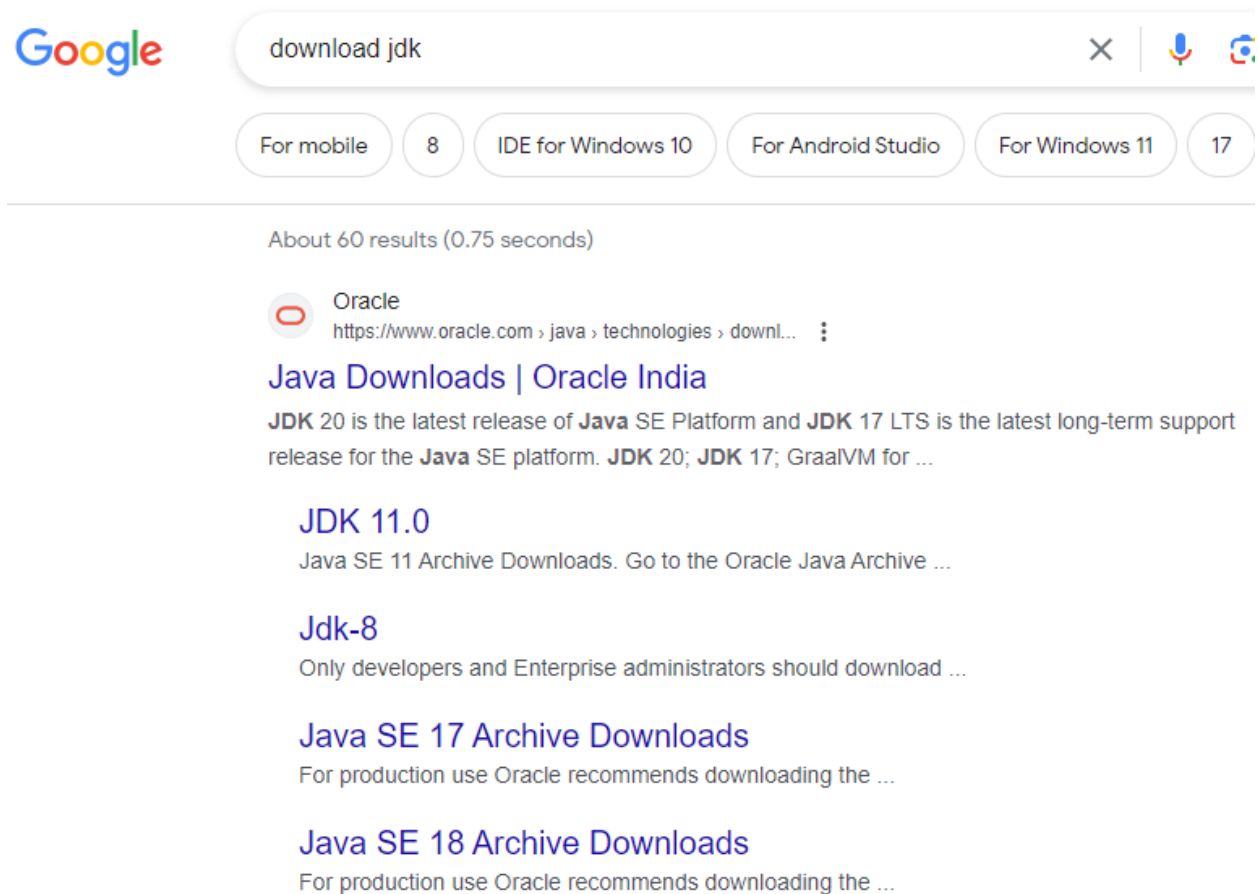


Installation of JDK

Step 1:

Down JDK:



OR

Open Link:

<http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

← → ↻ 🏠 <https://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

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Thank you for downloading this release of the Java™ Platform, Standard Edition Development Kit (JDK™). The JDK is a development environment for building applications, applets, and components using the Java programming language.

The JDK includes tools useful for developing and testing programs written in the Java programming language and running on the Java platform.

See also:

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Java SE Development Kit 8u191

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Product / File Description	File Size	Download
Linux ARM 32 Hard Float ABI	72.97 MB	jdk-8u191-linux-arm32-vfp-hflt.tar.gz
Linux ARM 64 Hard Float ABI	69.92 MB	jdk-8u191-linux-arm64-vfp-hflt.tar.gz
Linux x86	170.89 MB	jdk-8u191-linux-i586.rpm
Linux x86	185.69 MB	jdk-8u191-linux-i586.tar.gz
Linux x64	167.00 MB	jdk-8u191-linux-x64.rpm

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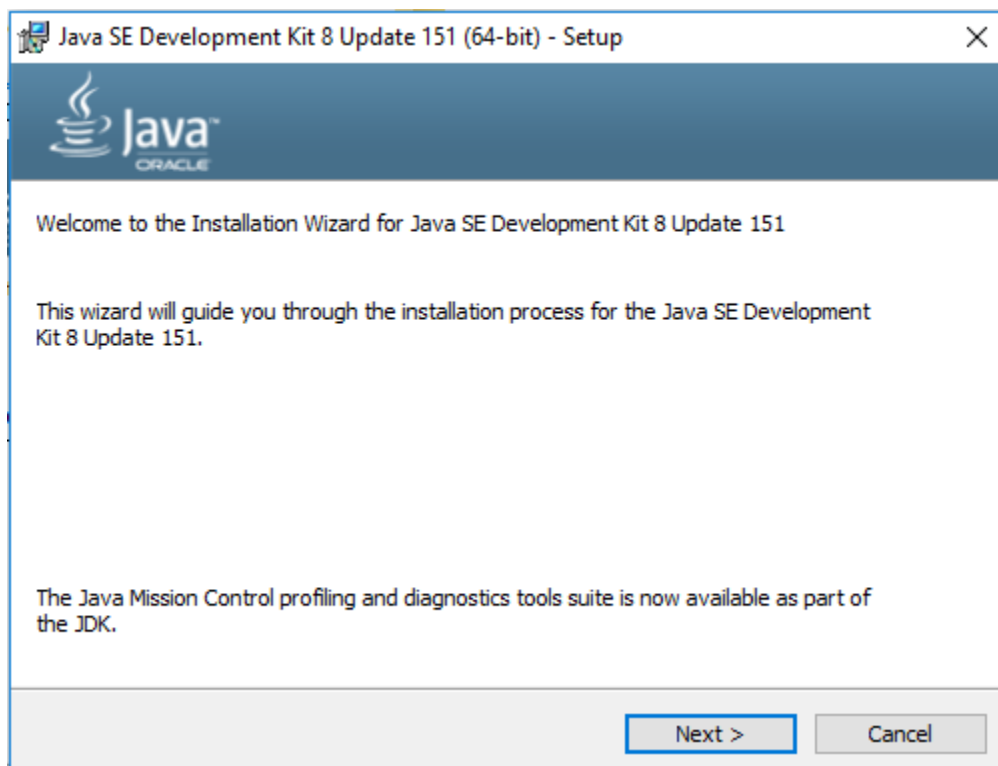
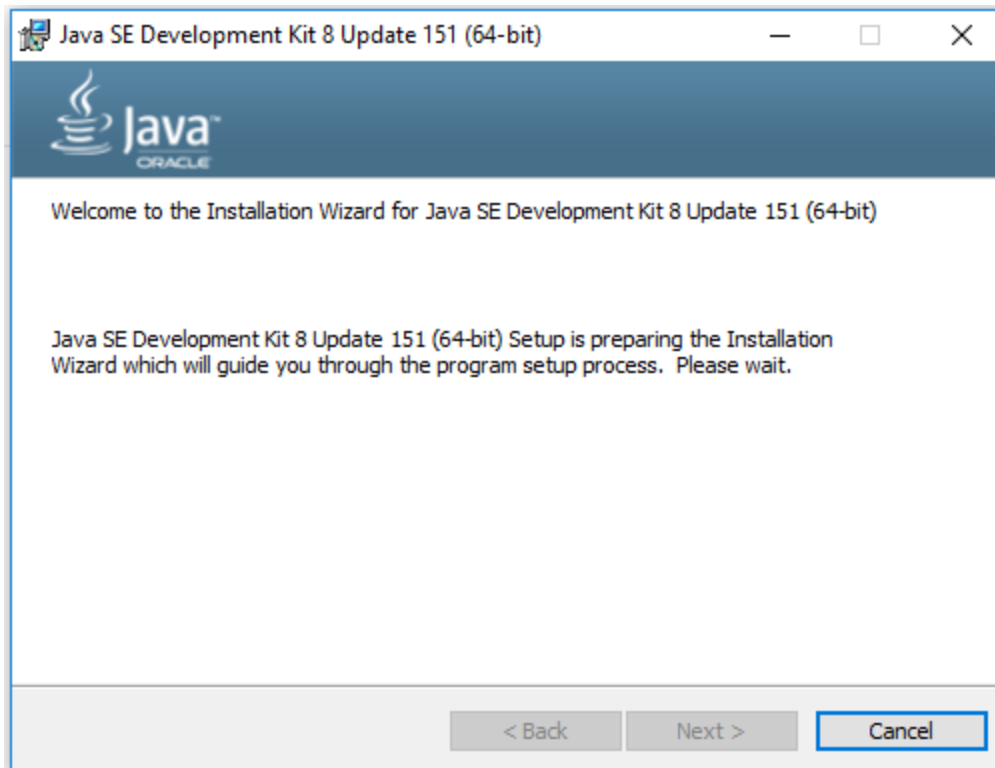
According to your system, configuration (64 bit/32 bit) /Operating System (Windows/Linux), download JDK.

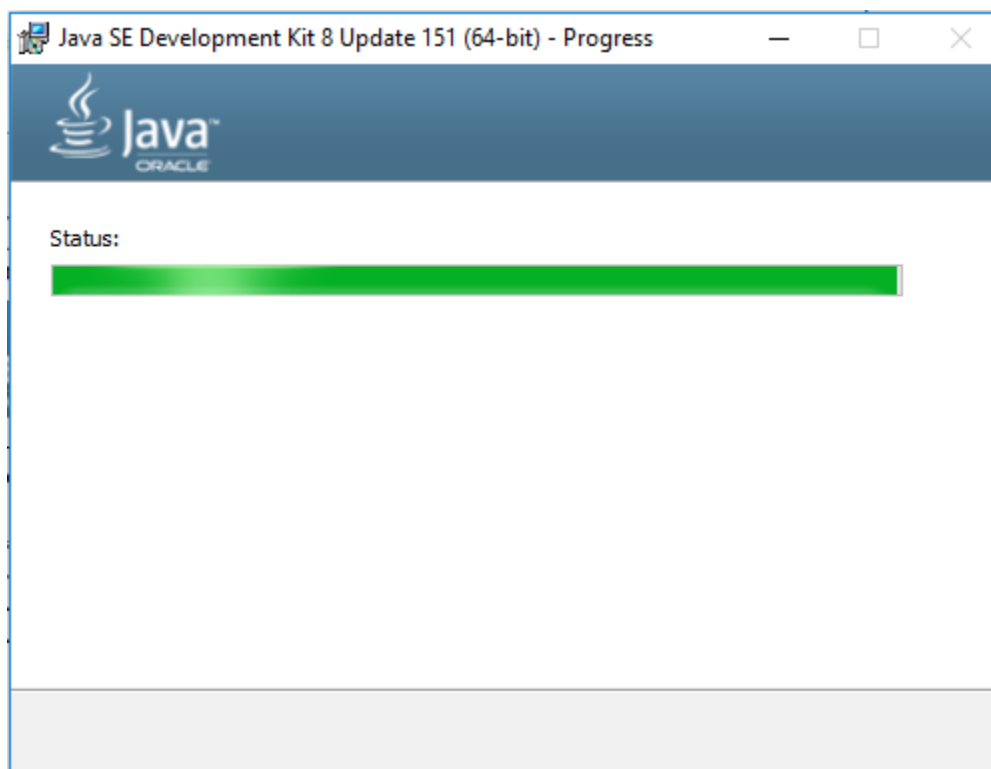
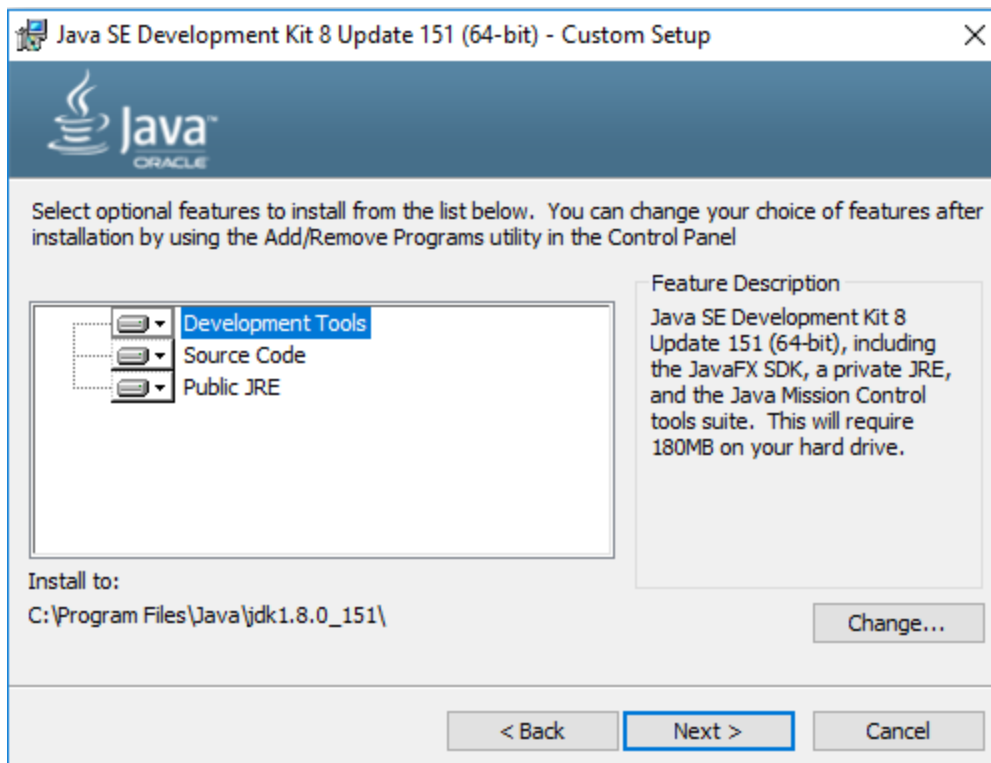
Java 8/Java 9-stable versions of Java

This PC > UPES (D:) > JAVA1 > JDK 1.8

Name	Date modified	Type	Size
 jdk-8u151-windows-x64	12/18/2017 10:04 ...	Application	210,896 KB

For installation - Double click on .exe file → click next → next → → Finish





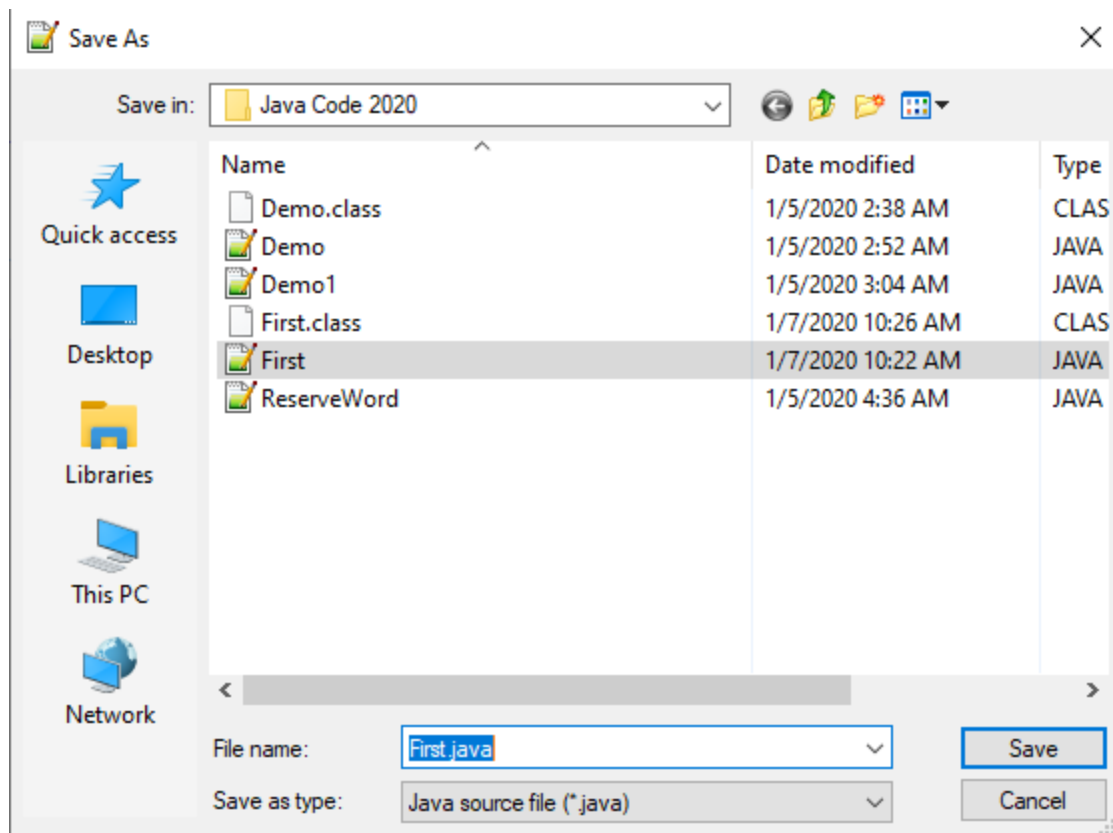
Finally, we have completed the installation of jdk.

Write, save, compile and run my First Java program:

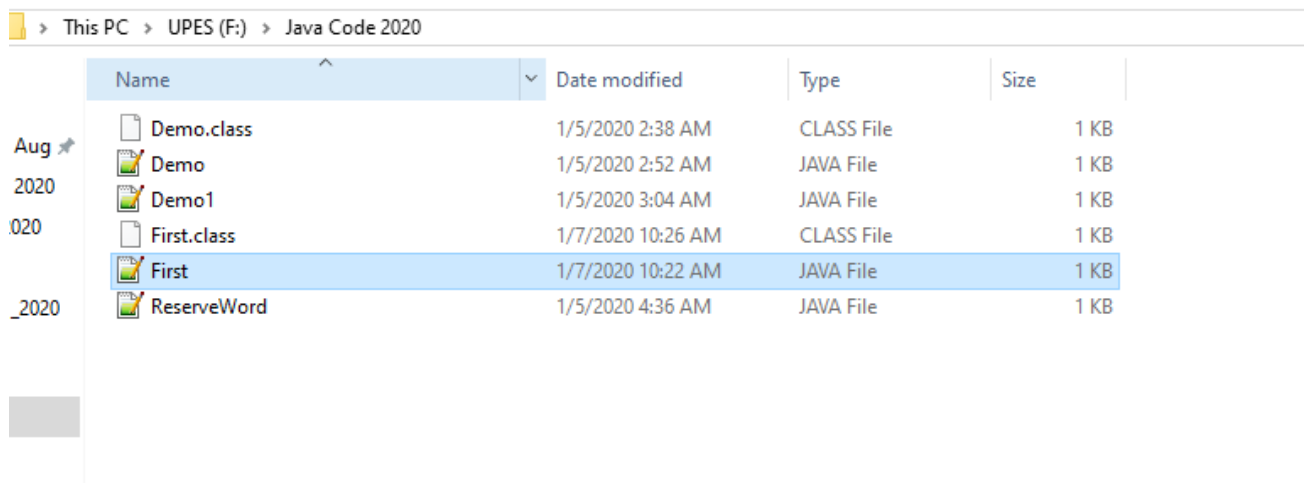
Open Notepad/Notepad++, type the following program.

```
1  class First
2  {
3      public static void main(String args[])
4      {
5          System.out.println("Hello User");
6      }
7  }
```

Save it as First.java in any drive or folder. D:JAVA→First.java



Please recheck the extension of saved program, it should be .java



Open Command Prompt:

Launch the command prompt via All Programs → Accessories → Command Prompt.

```
CA Select Command Prompt
Microsoft Windows [Version 10.0.18362.356]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\WINDOWS\system32>
```

My program location is F:\Java Code 2020

```
C:\WINDOWS\system32>f:

F:\>cd java code 2020

F:\Java Code 2020>
```

Check java/javac version:

```
F:\Java Code 2020>java -version
java version "1.8.0_131"
Java(TM) SE Runtime Environment (build 1.8.0_131-b11)
Java HotSpot(TM) 64-Bit Server VM (build 25.131-b11, mixed mode)

F:\Java Code 2020>javac -version
javac 1.8.0_131
```

Compile the program: **javac is the name of Java Compiler.**

```
F:\Java Code 2020>javac First.java
```

OR

```
F:\Java Code 2020>javac.exe First.java
```

After compilation command, either control goes to the next line or it can show the following error on the screen:

```
'javac' is not recognized as an internal or external  
command,  
operable program or batch file.
```

Resolving an error "javac is not recognized as an internal or external command"?

If there occurs a problem like displayed in the below figure, you need to set a path. Since DOS doesn't recognize Javac and java as internal or external commands. To overcome this problem, we need to set a path. The path is not required in a case where you save your program inside the JDK/bin directory. However, it is an excellent approach to set the path.

In simple words, our OS is not able to recognize the .java file.

Solution 1: Setting Temporary Path :

Copy the path of jdk/bin directory where java located

(C:\Program Files\Java\jdk1.8.0_131\bin)

> This PC > Local Disk (C:) > Program Files > Java > jdk1.8.0_131 > bin				
	Name	Date modified	Type	Size
Aug 2020	appletviewer	8/1/2018 9:44 AM	Application	16 KB
	extcheck	8/1/2018 9:44 AM	Application	17 KB
	idlj	8/1/2018 9:44 AM	Application	17 KB
	jabswitch	8/1/2018 9:44 AM	Application	34 KB
2020	jar	8/1/2018 9:44 AM	Application	16 KB
	jarsigner	8/1/2018 9:44 AM	Application	17 KB
	java	8/1/2018 9:44 AM	Application	203 KB
	javac	8/1/2018 9:44 AM	Application	16 KB
	javadoc	8/1/2018 9:44 AM	Application	17 KB
	javafxpackager	8/1/2018 9:44 AM	Application	131 KB
	javah	8/1/2018 9:44 AM	Application	16 KB

Write in the command prompt:

Command Prompt

```
F:\Java Code 2020>set path =C:\Program Files\Java\jdk1.8.0_131\bin
```

Note: In LINUX

```
export PATH=$PATH:/home/jdk1.8.01/bin/
```

A command for checking the values of the PATH variable

C:\Windows\System32\cmd.exe

```
F:\Java Code 2020>echo %path%
```

```
F:\Java Code 2020>echo %path%  
C:\Program Files\Java\jdk1.8.0_131\bin;C:\Program Files\MySQL\MySQL Server 5.5  
\bin;C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;C:\WINDOWS\System  
32\WindowsPowerShell\v1.0\;C:\WINDOWS\System32\OpenSSH\;C:\Program Files\nodej  
s\;C:\Users\saurabh.jain\AppData\Local\Microsoft\WindowsApps;C:\Users\saurabh.  
jain\AppData\Local\Programs\MiKTeX 2.9\miktex\bin\x64\;C:\Users\saurabh.jain\A  
ppData\Roaming\npm
```

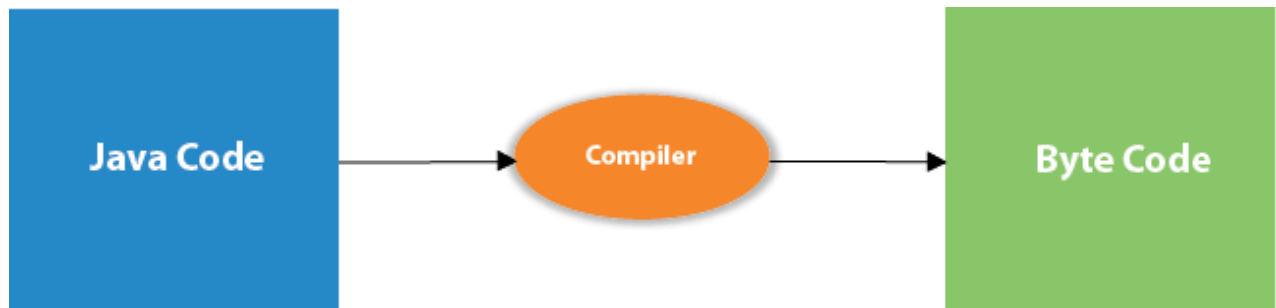
Again, compile the program:

```
F:\Java Code 2020>javac First.java
```







After proper compilation, the compiler will generate an intermediate code/byte code or the .class file.

Compilation Flow:

First.java -----compiler-----> First.class



PC > UPES (F:) > Java Code 2020

Name	Date modified	Type	Size
 Demo.class	1/5/2020 2:38 AM	CLASS File	1 KB
 Demo	1/5/2020 2:52 AM	JAVA File	1 KB
 Demo1	1/5/2020 3:04 AM	JAVA File	1 KB
 First.class	1/7/2020 10:58 AM	CLASS File	1 KB
 First	1/7/2020 10:22 AM	JAVA File	1 KB
 ReserveWord	1/5/2020 4:36 AM	JAVA File	1 KB

Execute the program: **Java is the name java Interpreter.**

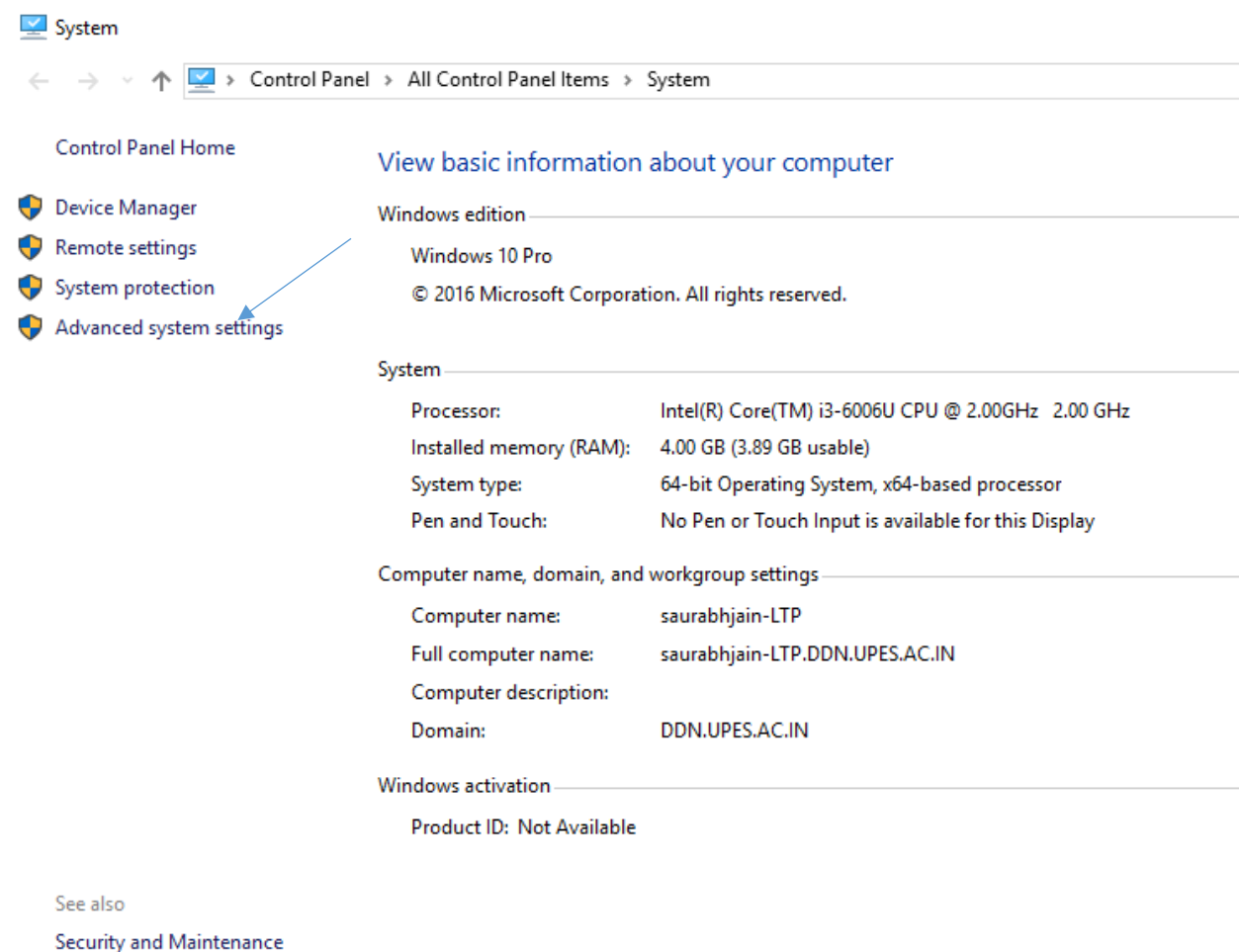
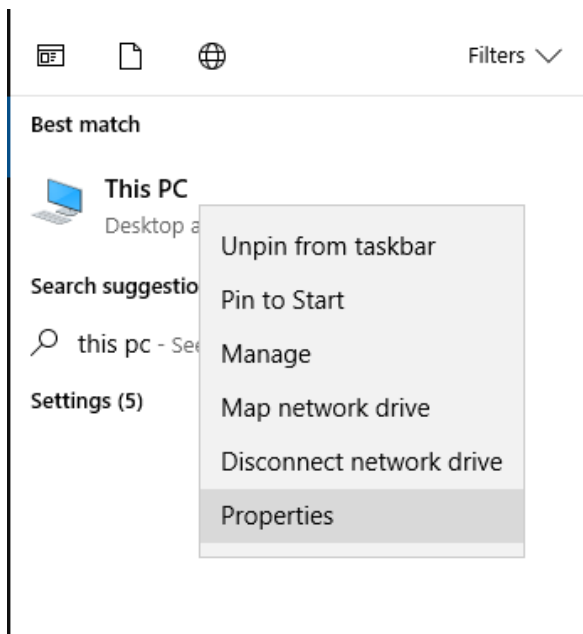
```
F:\Java Code 2020>java First
Hello User
```

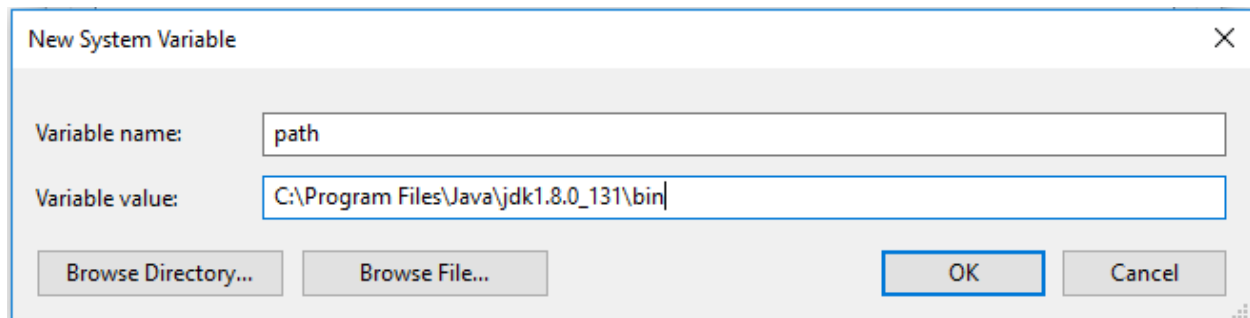
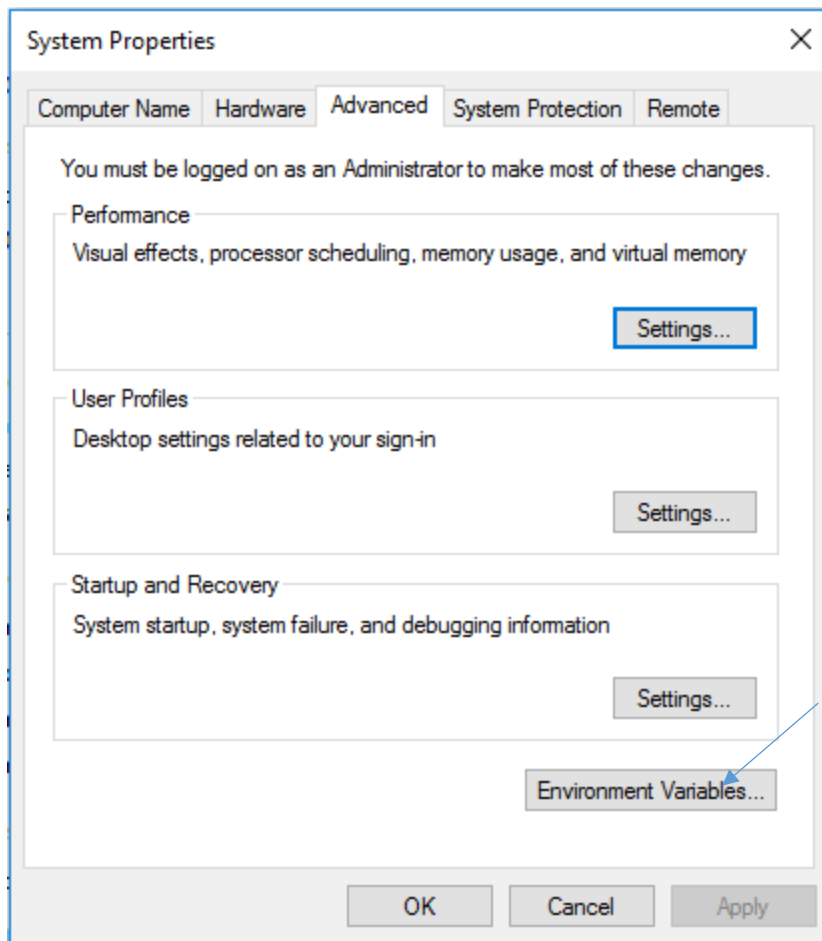
OR

```
F:\Java Code 2020>java.exe First
Hello User
```

Solution 2: Setting Permanent Path:

Go to My Computer → Right click → properties → advanced tab → environment variables → **new** tab of user/**system** variable → write **path** in variable name → write **path of bin** folder in variable value → ok → ok → ok





If your program gets stuck in an infinite loop, type Ctrl-c to break out.

Description of important keywords/parameters in the program:

```
1  class First
2  {
3      public static void main(String args[])
4      {
5          System.out.println("Hello User");
6      }
7  }
```

class: keyword is used to declare a class in Java.

public: main is called by the operating system in C++ but by JVM in Java, JVM can call main only when the public mode is given before main.

static: Since JVM is calling main which is in class, if we want to call main, an object of the class is required to call main by JVM. So JVM escapes from the burden of creating an object for the purpose of calling main().

void: indicate main(), won't return anything to JVM.

main: represents the entry point of the program.

String args[]: Known as command line arguments, String is a built-in class in java, String has every facility for making and working on char.

System.out.println(): is used to print statements. Here, System is a class, out is an object of the PrintStream class, and println() is a method of the PrintStream class. We will discuss the internal working of the System.out.println() statement in the upcoming section.

****What is Platform:** Any hardware or software environment in which a program runs, is known as a platform. Since Java has a runtime environment (JRE) and API, it is called a platform.