

A+ Computer Science

Basic Java

A Simple Class

```
public class AplusCompSci  
{  
  
  
  
  
  
  
  
  
  
}
```

All Java programs start with a class.

A Simple Class + main

```
public class AplusCompSci  
{  
    public static void main(String[] args)  
    {  
        System.out.println("Aplus Comp Sci!");  
    }  
}
```

OUTPUT

Aplus Comp Sci!

Syntax Rules

```
public class AplusCompSci
{ //open brace
    public static void main(String[] args)
    {
        System.out.println("Aplus Comp Sci!");
    }
} //close brace
```

Braces – You gotta have `em! Every class and every method must have a { and a } .

Syntax Rules

```
public class AplusCompSci
{
    public static void main(String[] args)
    {
        System.out.println("Aplus Comp Sci!");
    }
}
```

You must put a semi-colon at the end of all Java program statements (;).

Syntax Rules

Never put a ;
before an open { brace

:{ //illegal
}; //legal

Indentation

```
public class AplusCompSci
{
    public static void main(String[] args)
    {
        System.out.println("Aplus Comp Sci!");
    }
}
```

1 2 3

Indent all code 3 spaces to make it easier to read.

apluscompsci.java

Basic Java Output

System.out

frequently used methods

Name	Use
print(x)	print x and stay on the current line
println(x)	print x and move to next line down
printf(s,x)	print x according to s specifications

Basic Java Output

reference

command / method

System.out.print("applus compsci");

OUTPUT

applus compsci

Basic Java Output

```
System.out.print("aplus compsci");  
System.out.print("aplus compsci");
```

OUTPUT

aplus compsciaplus compsci

Basic Java Output

```
System.out.println("applus compsci");
```

OUTPUT

applus compsci

Basic Java Output

```
System.out.println("applus compsci");  
System.out.println("applus compsci");
```

OUTPUT

```
applus compsci  
applus compsci
```

one.java

Basic Java Output

**Escape
Sequences**

<code>\n</code>	newline
<code>\t</code>	tab
<code>\r</code>	carriage return
<code>\b</code>	backspace

```
System.out.println("aplusc\tompsci");
```

OUTPUT

aplusc

ompsci

Basic Java Output

**Escape
Sequences**

<code>\n</code>	newline
<code>\t</code>	tab
<code>\r</code>	carriage return
<code>\b</code>	backspace

```
System.out.println("apluscom\tpsci");
```

OUTPUT

apluscom psci

Basic Java Output

**Escape
Sequences**

<code>\n</code>	newline
<code>\t</code>	tab
<code>\r</code>	carriage return
<code>\b</code>	backspace

```
System.out.println("apluscomp\nsci");
```

OUTPUT

```
apluscomp  
sci
```

two.java

Basic Java Output

**Escape
Sequences**

\\	outs \
\"	outs "
'	outs '

```
System.out.println("aplus\\compsci\"/");
```

OUTPUT

```
aplus\\compsci"/
```

Basic Java Output

**Escape
Sequences**

\\	outs \
\"	outs "
'	outs '

```
System.out.println("aplus\\'comp'sci'/'");
```

OUTPUT

```
aplus\'comp'sci'/
```



Escape Sequences

frequently used combinations

Name	Use
<code>\t</code>	tabs over five spaces
<code>\n</code>	moves to front of next line
<code>\b</code>	deletes previous character
<code>\r</code>	moves to front of current line
<code>\\</code>	nets one backslash \
<code>\"</code>	nets one double quote "
<code>\'</code>	nets one single quote '

Basic Java Output

//	single-line comments
/* */	block comments

```
//this line prints stuff on the screen  
System.out.println("aplus cs");
```

Basic Java Comments

//	single-line comments
/* */	block comments

```
/*  
    this line prints stuff on the screen  
*/  
System.out.println("aplus cs");
```


Basic Java Output

```
System.out.printf("%s", "a pluscs\n");
```

OUTPUT

comp sci

three.java

Programming Errors

Syntax errors occur when you type something in wrong, causing the code to not compile.

```
//missing semicolon - ; expected  
System.out.println("aplus cs")
```

```
//case problem – should be System  
system.out.println("aplus cs")
```

Programming Errors

Runtime errors occur when something goes wrong while the program is running.

```
//an out of bounds exception is thrown  
String s = "runtime_error";  
System.out.println( s.charAt(15) );
```

four.java

Work on Programs!

Crank

Some Code!



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