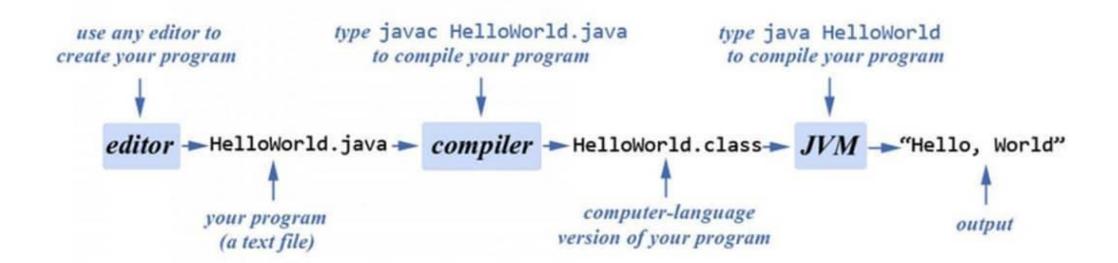


Basic code structure

```
text file named HelloWorld.java
                  name
                               main() method
public class HellWorld
   public static void main(String[] args)
       System.out.print("Hello, World");
       System.out.println();
                           statements
```

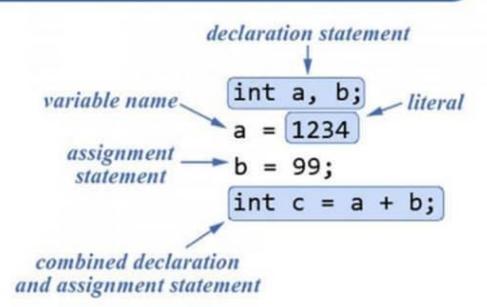
Input and output



Date types

type	set of values	common operators	sample literal values
int	intergers	+ - * / %	99 -12 2147483647
double	floating-point numbers	+ - * /	3.14 -2.5 6.022e23
boolean	boolean values	&& !	true false
char	characters		'A' '1' '%' '/n'
String	sequence of characters	+	"AB" "Hello" "2.5"

Assignment status



Booleans

valuestrue or falseliteralstrue falseoperationsand or notoperators&& || !

Functions

```
method
signature
                   return
                                    argument
                                             argument
                                              variable
                                      type
                    type
                             name
       public static double sqrt ( double c )
           if (c < 0) return Double.NaN;
 local
           double err = le-15;
variables
           double t = c;
           while (Math.abs(t - c/t) > err * t)
 method
  body
              t = (c/t + t) / 2.0;
           return t;
                                   call on another method
                   return statement
```

Loops

```
initialization is a
                                                              declare and initialize
                             loop
                                                             a loop control variable
seperate statement
                         continuation
                                          initialization another
                           condition
                                                                                   loop
                                             variable in a
                                                                               continuation
            int v = 1;
                                               seperate
                                                                                              increment
                                                                                 condition
                                               statement
            while ( v \le N/2 )
                                                           int v =
braces are
                                                           for (int i = 0; i <= N; i++)
 optional
                v = 2*v;
when body
is a single
                                                                System.out.println(i + " " + v);
statement
                                                                v = 2*v;
                     body
                                                                                   body
```