

Data Types

byte	8 bits	$-2^7 \text{ to } 2^7 - 1$
short	16 bits	$-2^{15} \text{ to } 2^{15} - 1$
int	32 bits	$-2^{31} \text{ to } 2^{31} - 1$
long	64 bits	$-2^{63} \text{ to } 2^{63} - 1$
boolean	true \ false	
char	16 bit unicode	$-2^{15} \text{ to } 2^{15} - 1$
float	32 bit decimal	$-2^{31} \text{ to } 2^{31} - 1$
double	64 bit decimal	$-2^{63} \text{ to } 2^{63} - 1$

Encapsulation

public	user can see
private	hide from user

Swap

```
int temp = e1;
e1 = e2;
e2 = temp;
```

While loop

```
while(condition) {
    //codes
}
```

For Loop Array

```
string word = "Hello";
for (char c: word.toCharArray()) {
    System.out.println()
    ...
}
```

Class

```
public class ABCD {
    public A () {
        //codes
    }
    public void B() {
        //codes
    }
}
*public A = default, run automatic
*public void B = need call
```

Commands

\n	new line
\t	tab
\"	"
\'	'
\\	\

Do - While loop

```
do {
    //codes
} while (condition);
```

For Loop List

```
int mylist = {100,200,300,400};
for(int item = 0; item< mylist.length; item++){
    //codes
}
for(int item mylist) {
    //codes
}
```

Abbreviation

JVM	JAVA Virtual Machine
JRE	JAVA Runtime Environment
JDK	JAVA Development Kit
bytecode	intermediate level long
compiler	JAVA -> Bytecode
Java Runtime	bytecode -> machine
native compiler	directly to machine

Array

```
int[] mylist = new int[2]
mylist[0] = 100;
mylist[1] = 200;
int[] mylist = {100, 200}
```