

Algorithms

- actions
 - order
-

Control Structures

- sequential action
- selection / decision "if"
- subroutine (method calls)
- repetition (loops)

if - single selection

if (guard)
 condition

{ must evaluate to
true or
false }

boolean

```
if ( x > 10 ) {  
    System.out.println(">10");  
}
```

```
if ( x > 10 )  
    System.out.println(">10");
```

```
if (x != 8)
    System.out.println("not 8");
System.out.println("Done"),
```

```
if (x != 8) {
    System.out.println("not 8");
    System.out.println("Done");
}
```

Block:

{

int x = 3;

not available
outside of
block

}

System.out.println(x);

error

;

WARNING!!!

 $x = 3; j; j - j; j$

```
if(x < 8) j
    s.o.println("x < 8");
```

if (
 < <=
 > >=
 != ==)

String line = ...

~~if (line == "Quit") {~~

}

method of String
if (line.equals("Quit")) {
eval. to true or false

BankAccount

```
public void setBalance(double newBal)
{
    if (newBal < 0) {
        Sys.out.println ("Balance can't
            be negative");
    }
    balance = newBal;
}
```

```
if ( guard ) {  
    //execute if guard is true  
}  
else {  
    //execute if guard is false  
}
```



```

if (x < 100) {
    S.o.p ("x < 100");
}

```

```

else {
    S.o.p ("x >= 100");
}

```

```

S.o.p ("Done");

```

X is 10	X is 1000
x < 100 ✓	x < 100 ✗
"x < 100"	"x >= 100"
"Done"	"Done"

UML:

