Conditional Statements

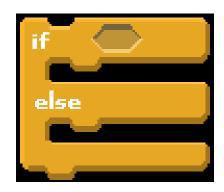
CS Principles

THE IF AND IF...ELSE STRUCTURES

If and If...Else Structures

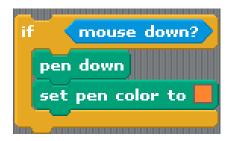
- Also known as a Conditional Statement
- Allows a sprite to make a decision
- Can use sensing tiles to test conditions
- Predicate fields are used for conditions that produce either true or false





When to use the If Structure

 When the sprite has to make a decision between performing a block of code or not – Yes/No, True/False







```
if touching edge ▼ ?
turn (¥ 15 degrees
```

When to use the If...Else Structure

 When the sprite has to make a decision between either performing one block of code or performing a different block of code

```
if answer = Yes
set size to 100 %
else
clear graphic effects
```

NESTED IF'S AND COMPOUND CONDITIONS

Nested If Statements

- When one If-structure is used in another IFstructure, this new structure is known as a Nested IF.
- The Nester IF checks two or more conditions.

```
when clicked

forever

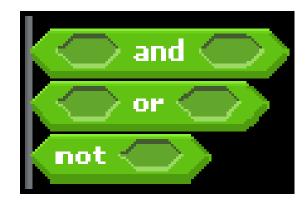
if mouse down? and touching mouse-pointer ?

set whirl effect to mouse x
else
if mouse down?

clear graphic effects True
```

Logical Operators

- Allow us to put two or more conditions together to create one compound condition
- And, Or and Not
- Order of Precedence: Not, And, Or



Conditional Operator Example

- All three can be used in any combination.
- Be careful Don't get confusing. Try to keep them as simple as you can.

```
touching color ? and

not touching edge ? or mouse down?

turn (* 15 degrees
```

Conditional Examples

```
when clicked

point in direction 90 v

forever

move 5 steps

if on edge, bounce

if touching ?

next costume

wait 1 secs

next costume
```

```
when clicked

point in direction 90 forever

if touching mouse-pointer?

switch to costume beachball1

else

switch to costume tennisball
```

```
when clicked

point in direction 90 v

forever

if touching mouse-pointer ? and mouse down?

next costume
```