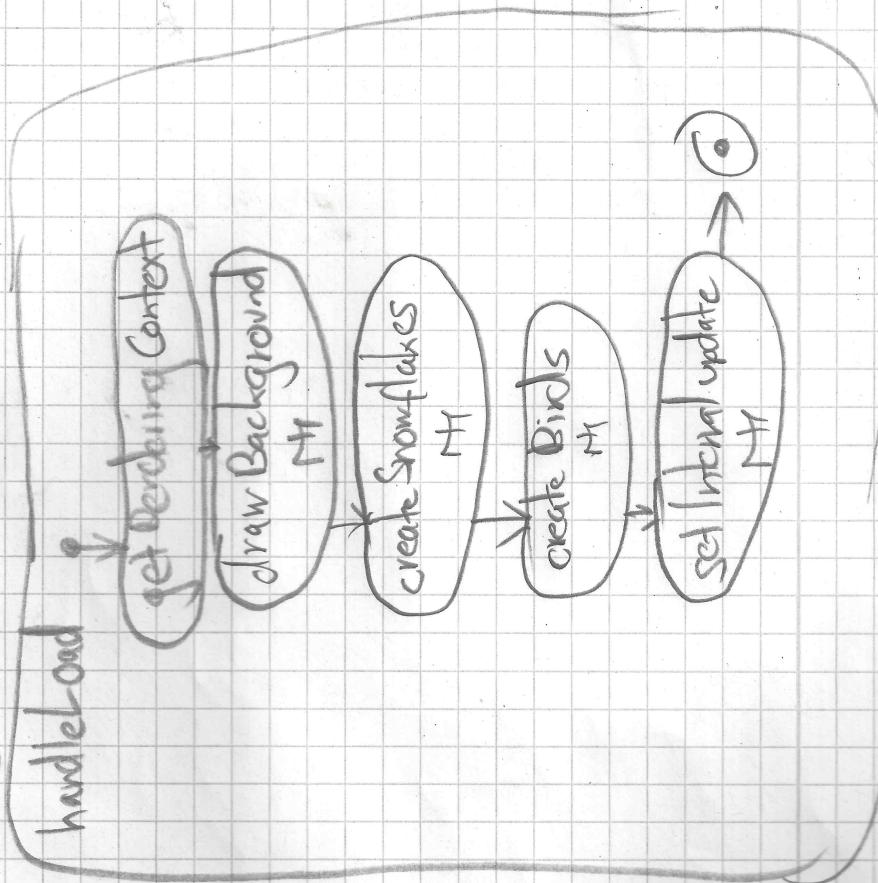
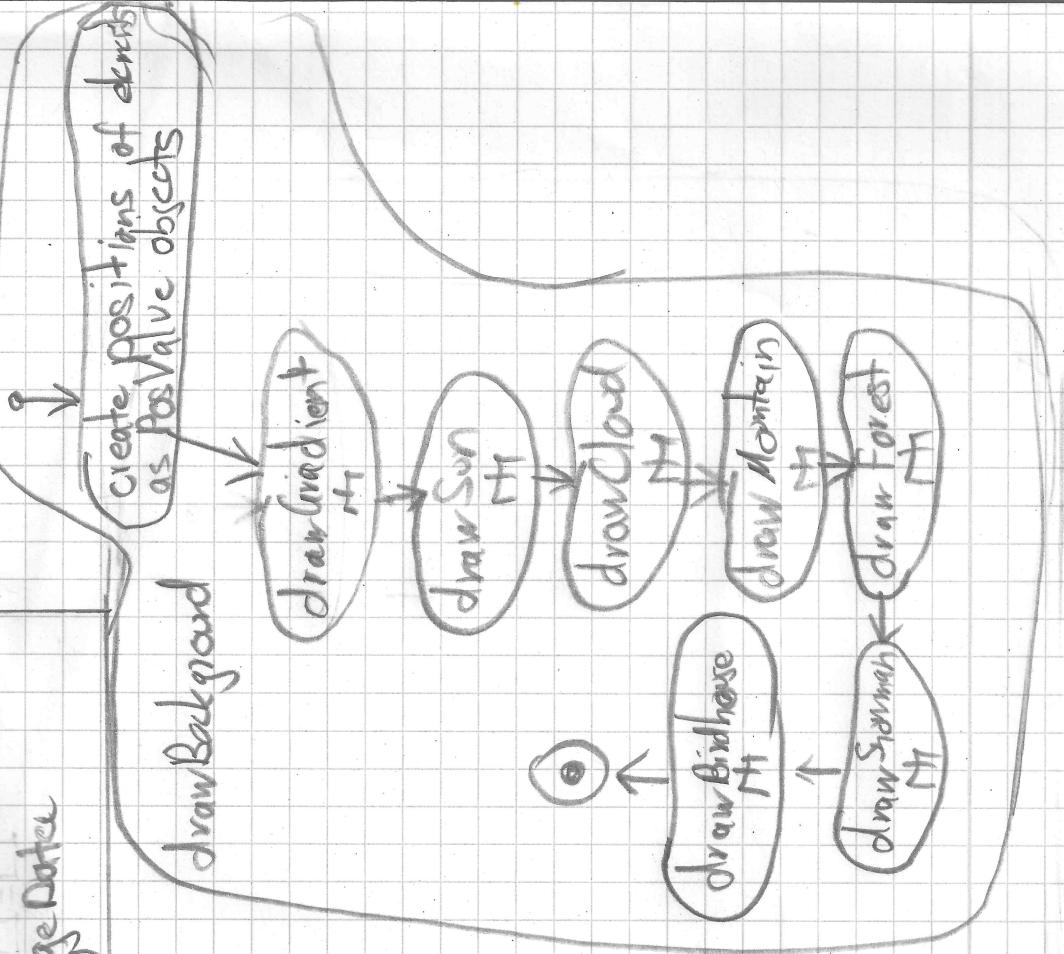


# Activity Diagram

Polymorphism  
View - Classes

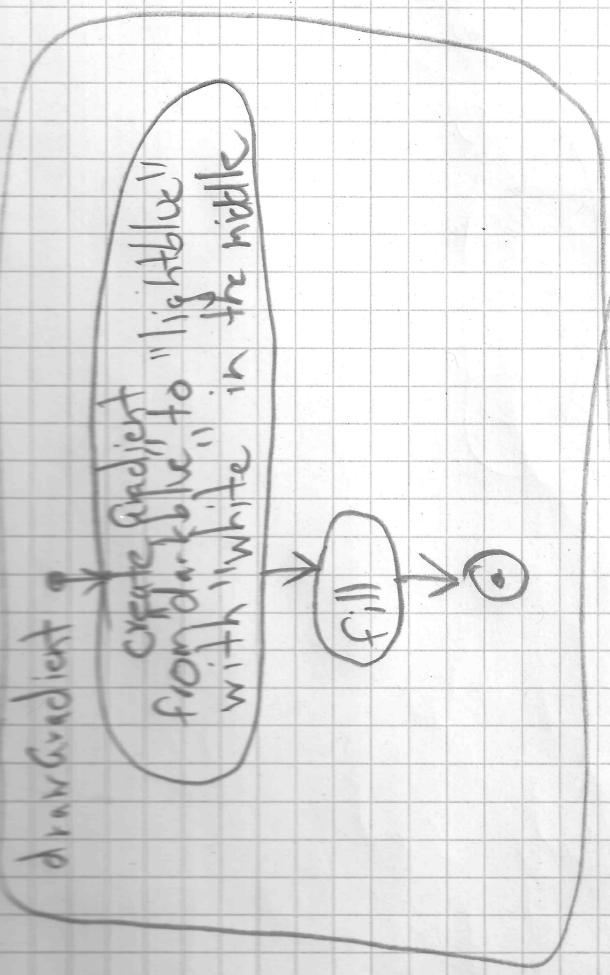


```
let ctx: CanvasRenderingContext2D  
let canvas: HTMLCanvasElement  
moreables: Moreable[] = []  
let backgroundImage: ImageData  
let stepNumber = 0
```



# Activity Diagram

Polymorphism /  
WML-Cards



## Polymorphism / Birds / NWL Classes

## Activity Diagram

-position: PosValue

r1: number = 40  
r2: number = 80  
gradient = Radial Gradient

Set colour stops for gradient transparent at 10 and bright yellow at r1/r2

Save transform

Translate to -position

Draw full circle

Restore transform

②

-size: PosValue

numParticles : number = 50;  
radParticles : number = 20;  
particle = path with full cr. de  
with /adParticles  
gradient: Radial Gradient  
from a=05 to a=0.7

Save transform

Translate to -position

Finderc nParticles]

Restore transform

x: number = random size.x  
y: number = random size.y

Restore transform

Save transform

Translate to Y1

Draw

Q

## Polymorphism Birds / WNL Classes

## Scalable Diagram

`drawMountain`  
 - position: PathValue  
 - min: number  
 - max: number

`stepMin: 20  
 stepMax: 100  
 x: number = 0`

`Save transform`

`translateTo - position`

`move to 0,0`

`lineTo 0, - max`

`x += random step between  
 stepMin and stepMax`

`y: number = - min - random (stepMin, - min)`

`draw`  
`Restore Transform`

color stop 9, 100%
color stop 8, 100%
color stop 7, 100%
color stop 6, 100%
color stop 5, 0%

`Create gradient`

`Close path`

`Line to x1, 0`

`Execute with`

`Line to x1, y`

## Polymorphism / Birds & Small Classes

## Activity Diagram

draw Forest

preStart: PadValue

```
let numBranches: number = 10;  
let maxRadius: number = 30;  
let branch: Path2D with any;  
let branchRadius: number = 10;  
let maxRadius: number = 40;
```

save transform

translate to -pastail

create fillStyle = "brown"

```
let centerX: number = 0;  
let centerY: number = 0;
```

for index < numBranches

```
let x: number = 0;
```

○

draw tree

restore transform

create branches with fillRect  
with x gap between qd every second  
one 10px down with w=20px and  
h=40px

## Polymorphism/ Bridges/WWL Classes

## Activity Diagram

drawTree [-posStart]: Activity

```
let x: number = -posStart  
let y: number = -posStart
```

```
let lengthInTotal: number = 30  
let numTrees: number = 10
```

```
f.fillStyle = "green"
```

drawTriangle with height = 20  
and width = length the Total

translate transform(x,y)

save transform

translate transform(x,y)

index < 3

index = 71131517113

make 2, 4, 6, 8, 10 tree - posStarty + 10

depth  
- 1

draw 3 triangles with x=0, y=0  
+ the middle offset & branch less than  
top of each other 10 times

index < 3

index = 71131517113

make 2, 4, 6, 8, 10 tree - posStarty + 10

depth  
- 1

restore transform

## Polymorphism Birds/Man Classes

## Activity Diagram

drawSnowman -position, PosValue

let freePosition: PosValue = {x: Position, y: position Y - 125};

Save transform

translate transform  
to C-position

draw three white circles with  
 $r=40, r=30$  and  $r=25$

restore transform

stroke style orange

DrawLine at (0,0)

draw two black circles  
at  $y=-10$  and  $y=10$

drawBirdHouse -position, PosValue

Save transform

translate to  
C-position

draw two lines  
light ad left of  
0,0

draw line horizontally  
on top

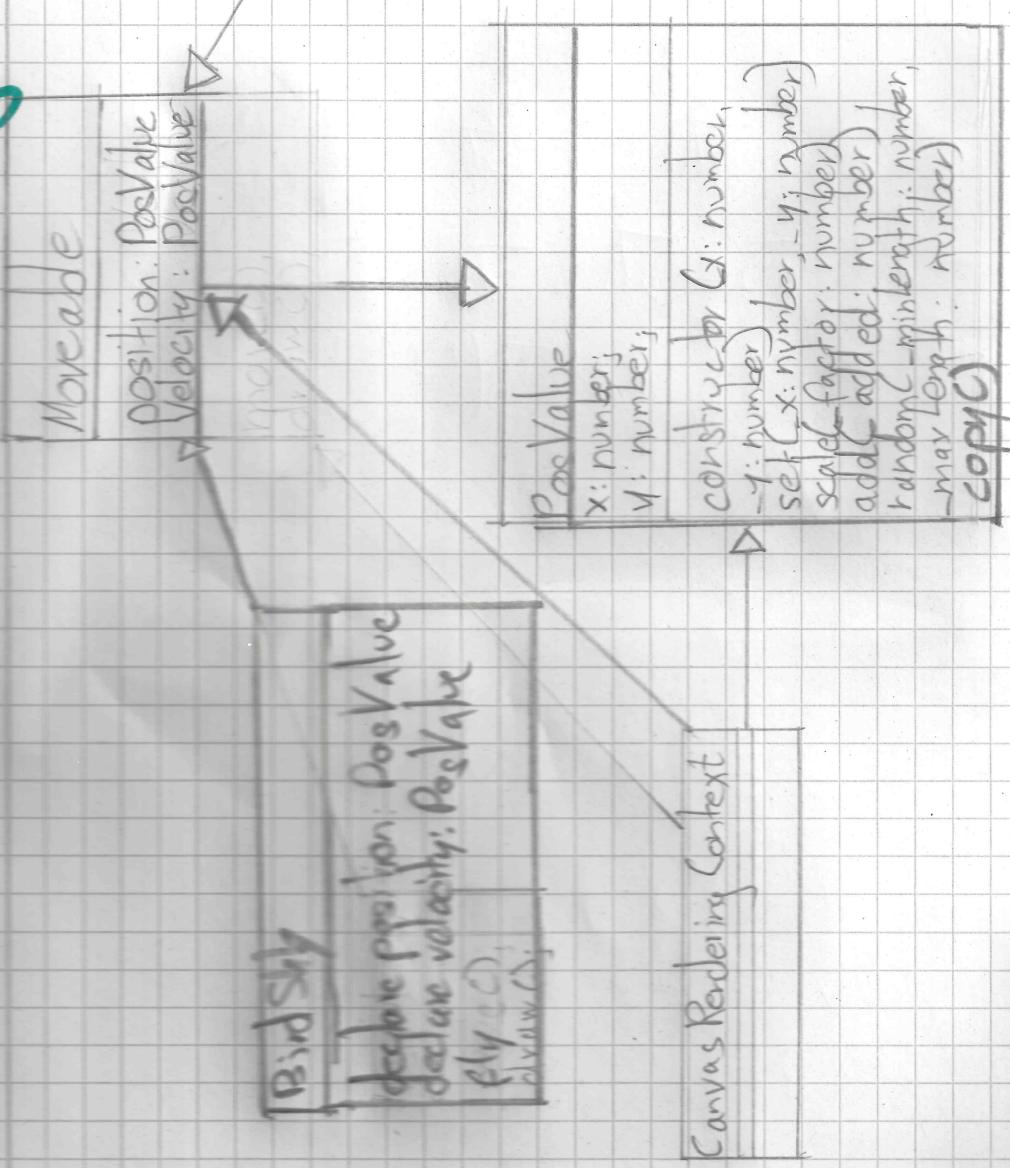
draw two lines as  
a roof

Restore transform

0

# Polymorphism

# Class Diagram



`Snowflake`

`size: number`

`position: PosValue`

`velocity: PosValue`

`shortLink: string`

`gradient: CanvasGradient`

`move()`

`draw()`

`PosValue`

`x: number;`

`y: number;`

`constructor(x: number, y: number)`

`scale(factor: number)`

`add(x: number, y: number)`

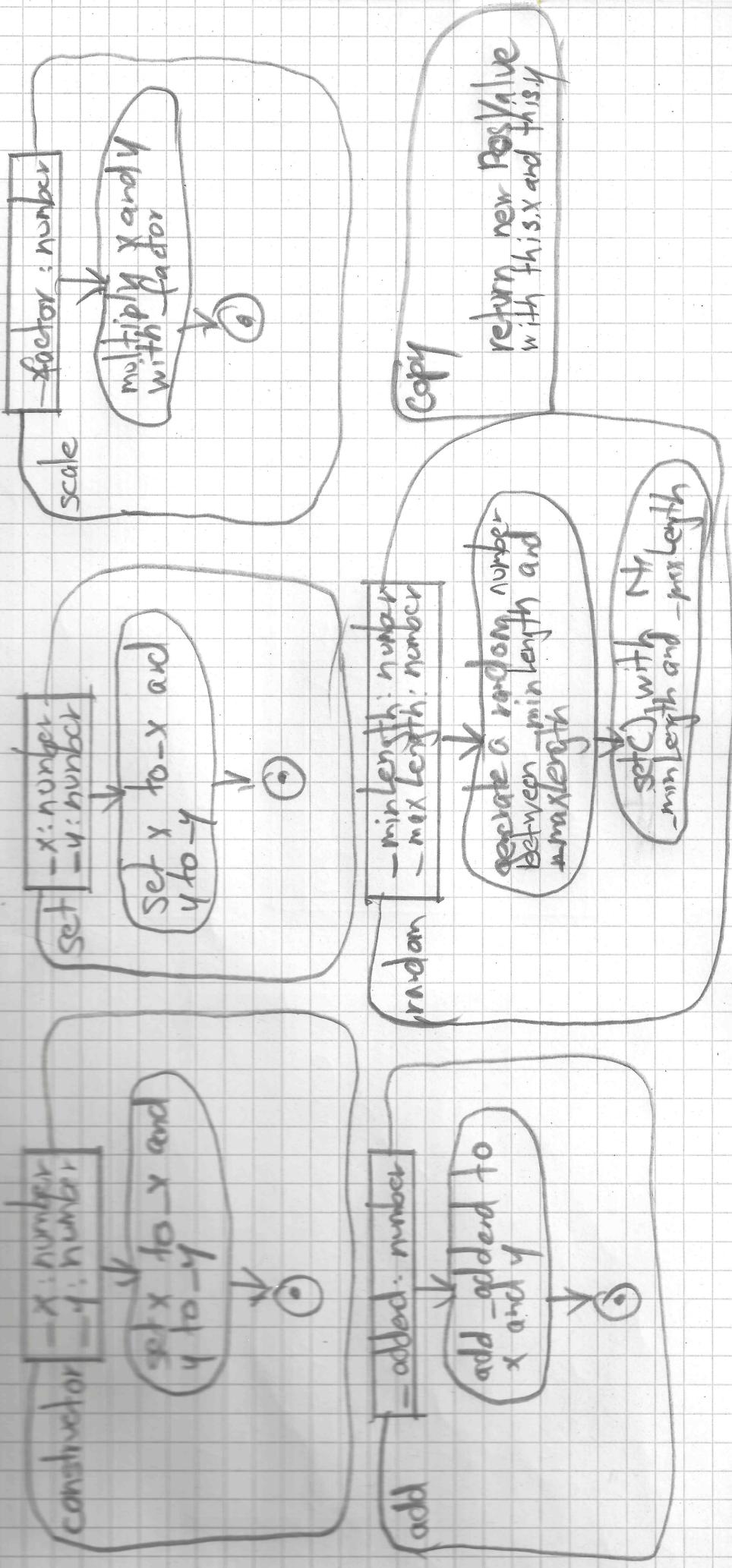
`random(minLength: number, maxLength: number)`

`copy()`

`CanvasRenderingContext`

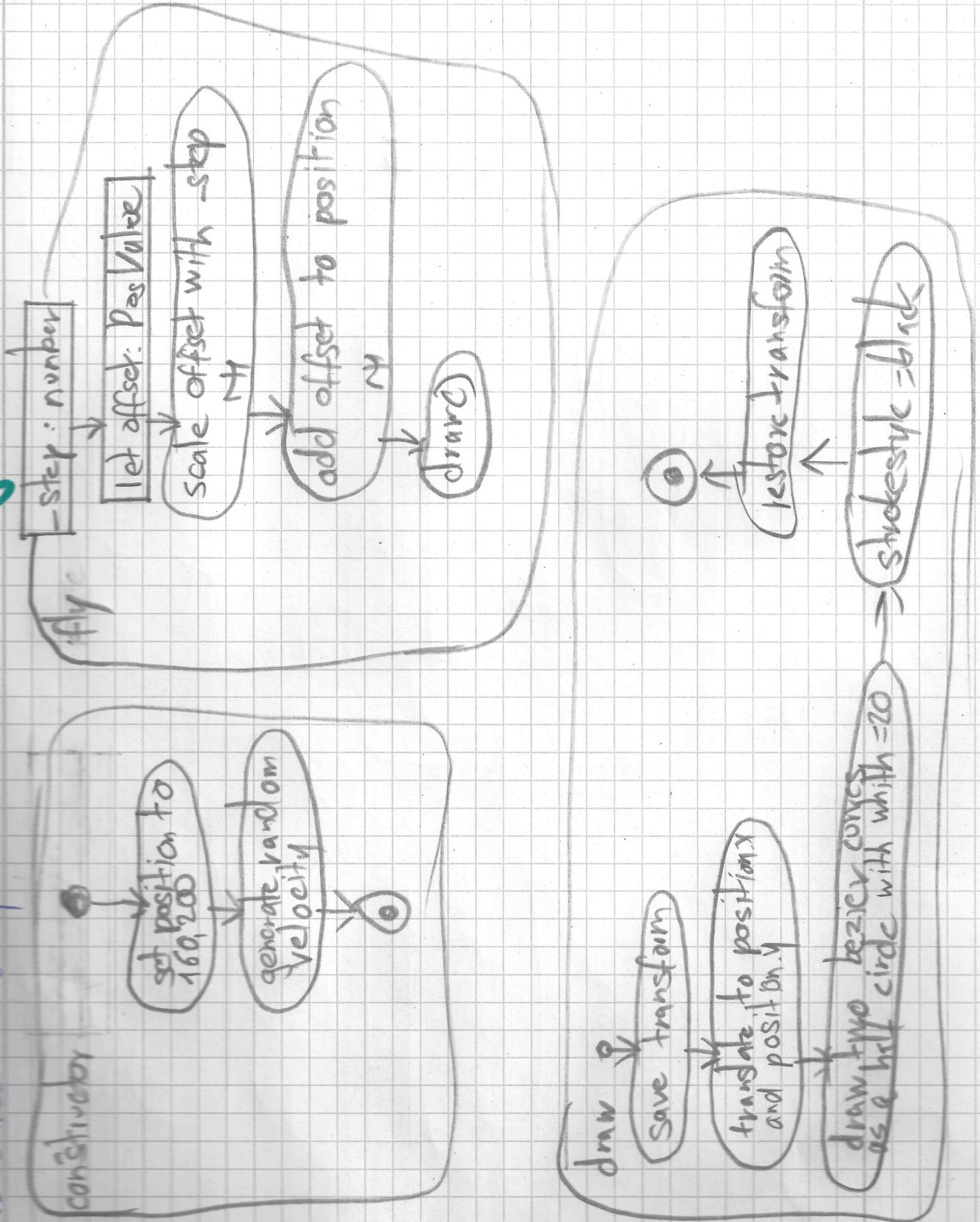
# Actiarity Diagram

Polymorphism  
 $\text{INN} \sqsubseteq \text{classes} = \text{ProgValue}$



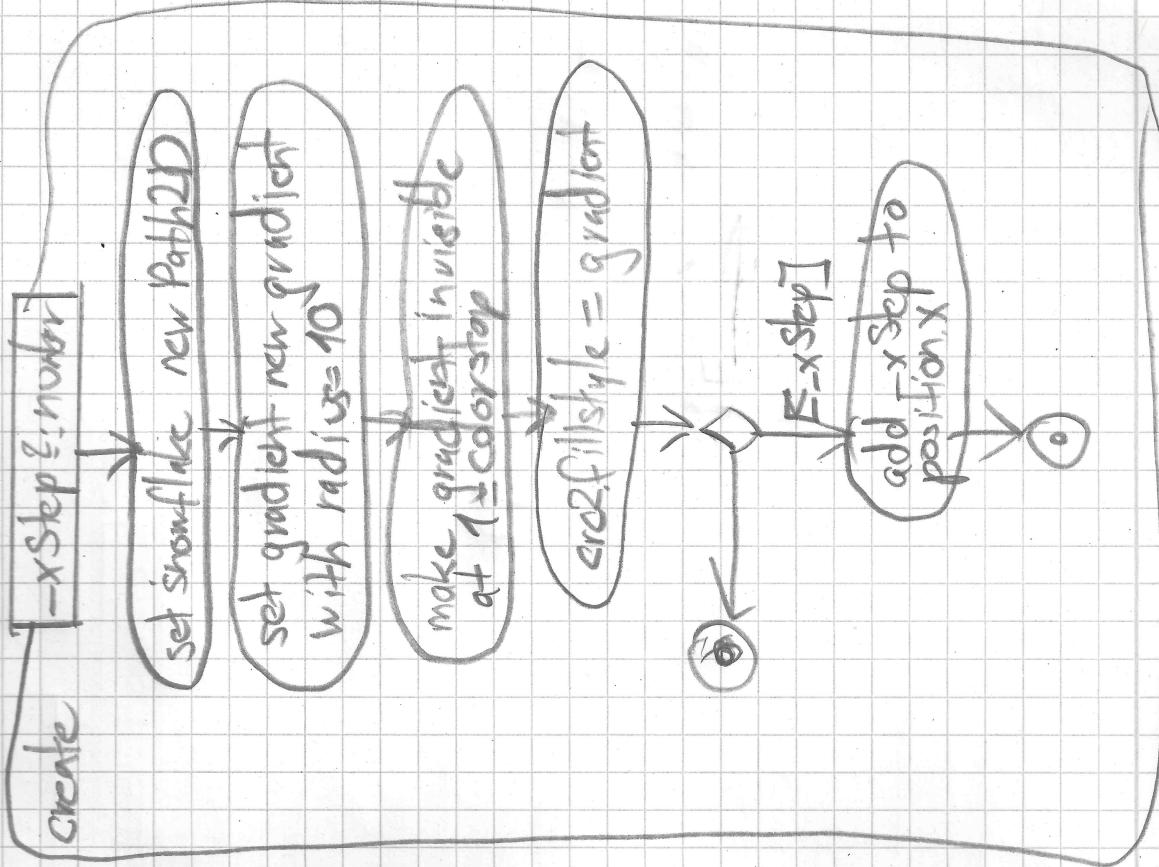
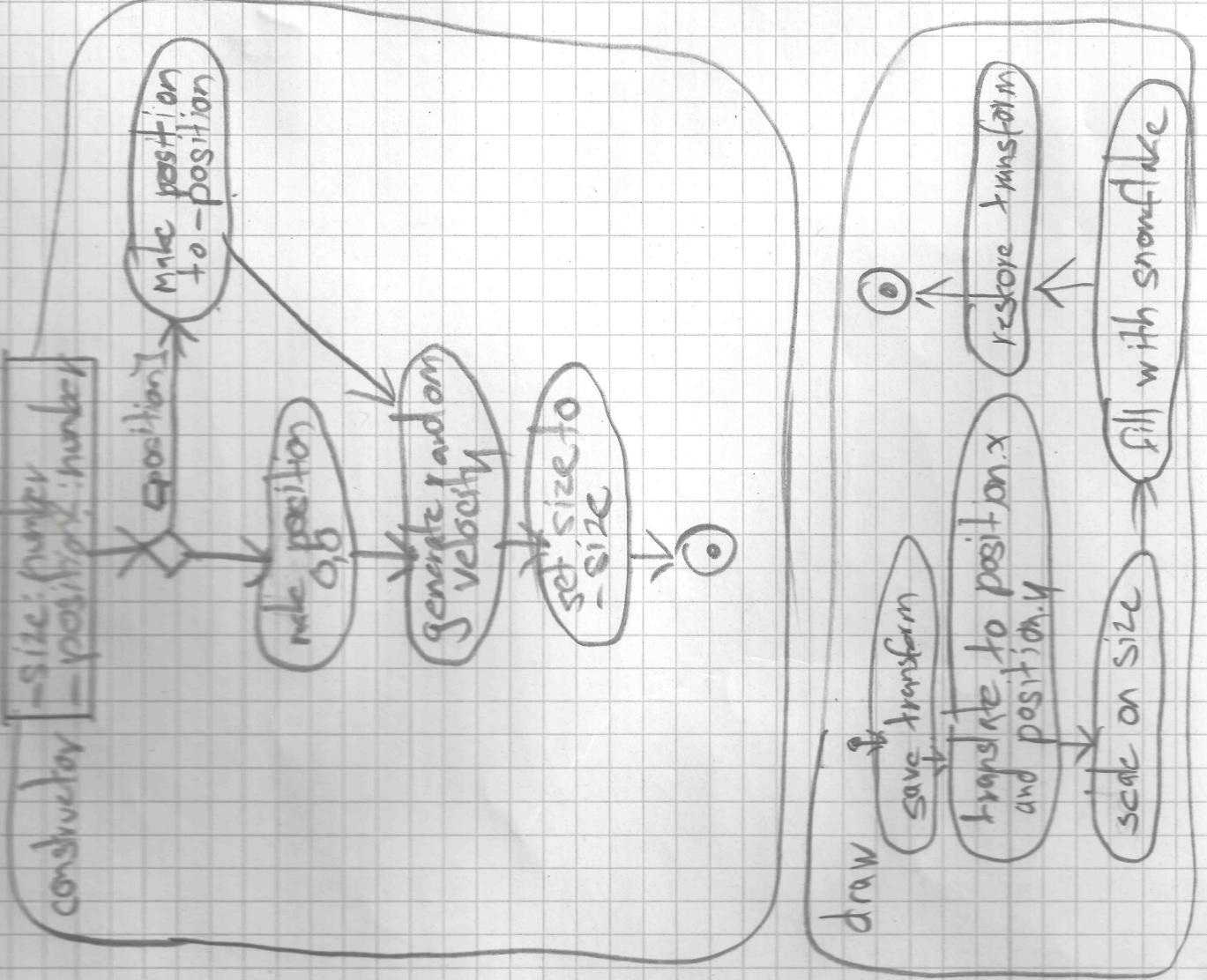
# Activity Diagram

Polymorphism  
WW - Elmer - Bird Sky



# Activity Diagram

Polymerphism  
WWL Classes - Snowflake



## Polymorphism - Moveable

## Activity Diagram

