Object Oriented Programming

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Introduction

Teach Us the Hokey Pokey

What is an Object?

- Mom
- Dad
- Kid
- Bear
- Monkey
- Elephant

What's Common?

- Hands (front paws)
- Feet (back paws)
- Arms
- Legs
- Heads

What's Object Oriented Programming?

- Programming with objects.
- Objects have attributes and functions.
- Objects know about themselves.
- They can interact with others.

Our Model

```
Animal {
    Name: {Bob, Cuddles, etc}
    Type: {Monkey, Bear, etc}
    Color: {Red, Yellow, Blue, etc}

    Do (BodyPart, Action)
    ...
    LeftHandIn()
    LeftHandOut()
    ...
    HokeyPokey()
    ...
}
```

```
Bear extends Animal {
    Bear() {
        super(name: Bob,
            type: Bear,
            color: Brown)
    }
}

Monkey extends Animal {
    Monkey(name: name,
        color: color) {
        super(name: name,
            type: Monkey,
            color: color);
    }
}
```

Hokey Pokey

Our Language: <u>BodyPart</u> "action"

1. <u>LeftHand</u> "in"
2. <u>LeftHand</u> "out"
3. <u>LeftHand</u> "in"
4. <u>LeftHand</u> "shake"
5. <u>Body</u> "Hokey Pokey"

Advanced Shorthand: BPa

1. LHi
2. LHo
3. LHi
4. LHs
5. Bhp

Hokey Pokey (in code)

1. LeftHand   "in"
2. LeftHand   "out"
3. LeftHand   "in"
4. LeftHand   "shake"
5. Body   "hokey pokey"
6. RightHand   "in"
7. RightHand   "out"
8. RightHand   "in"
9. RightHand   "shake"
10. Body   "hokey pokey"

11. LeftFoot   "in"
12. LeftFoot   "out"
13. LeftFoot   "in"
14. LeftFoot   "shake"
15. Body   "hokey pokey"
16. RightFoot   "in"
17. RightFoot   "out"
18. RightFoot   "in"
19. RightFoot   "shake"
20. Body   "hokey pokey"

Your Turn

Get your animal and create your own Hokey Pokey…

Remember the syntax: **BodyPart "action" (or BPa)**

Examples:

- <u>LeftHand</u>   "in"   (LHi)
- <u>LeftFoot</u>   "out"   (LFo)
- <u>RightLeg</u>   "in"   (RLi)
- <u>RightHand</u> "shake"   (RHs)
- <u>Body</u>   "hokey pokey"   (Bhp)