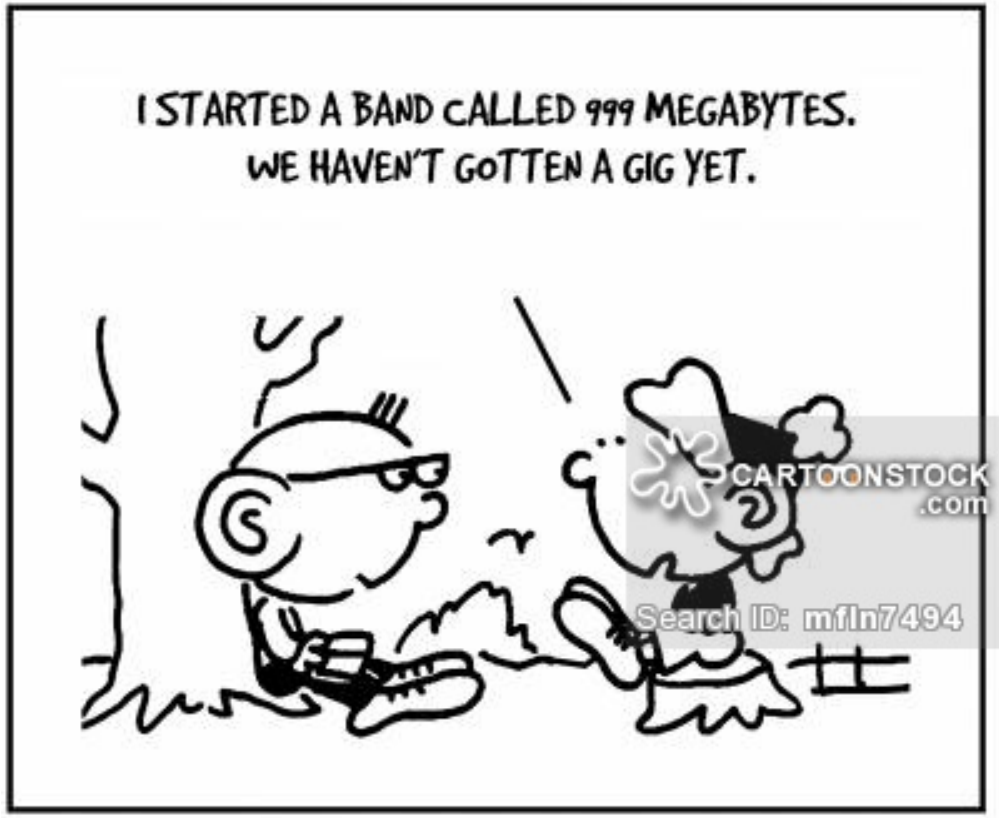
# ME1 Computing

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with code **44 88 7**

# Repeating many time the same action

Throwing a dice once:

```
dice = int(random.random()*6 + 1)
```

Throwing a dice 10 times:

```
dice = int(random.random()*6 + 1)
dice = int(random.random()*6 + 1)
dice = int(random.random()*6 + 1)
dice = int(random.random()*6 + 1)
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```
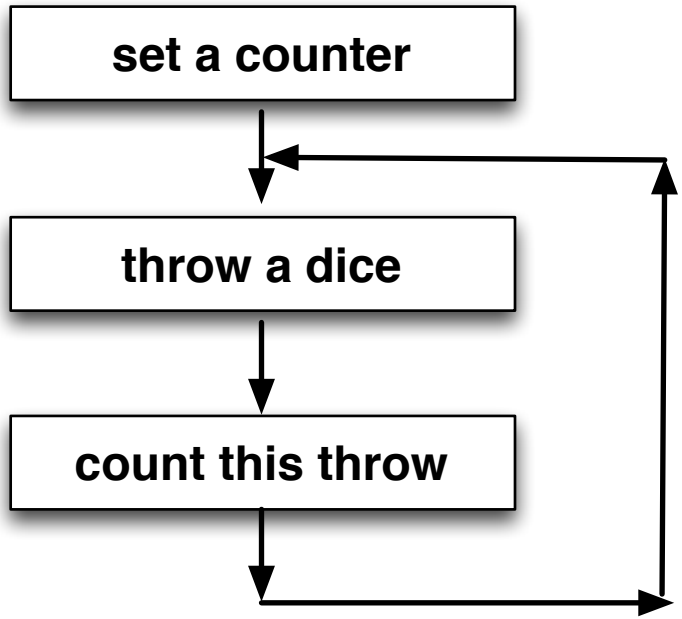
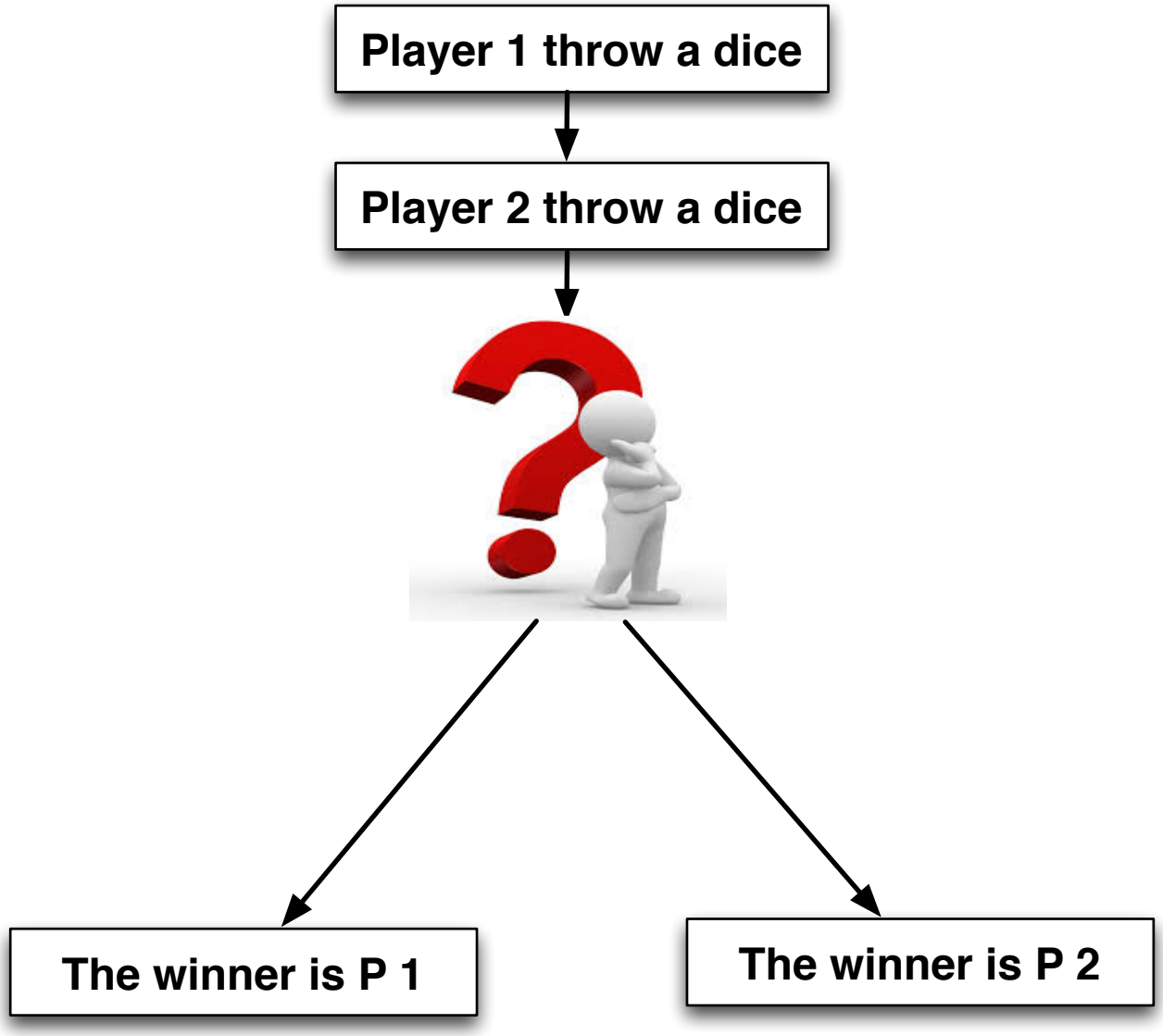
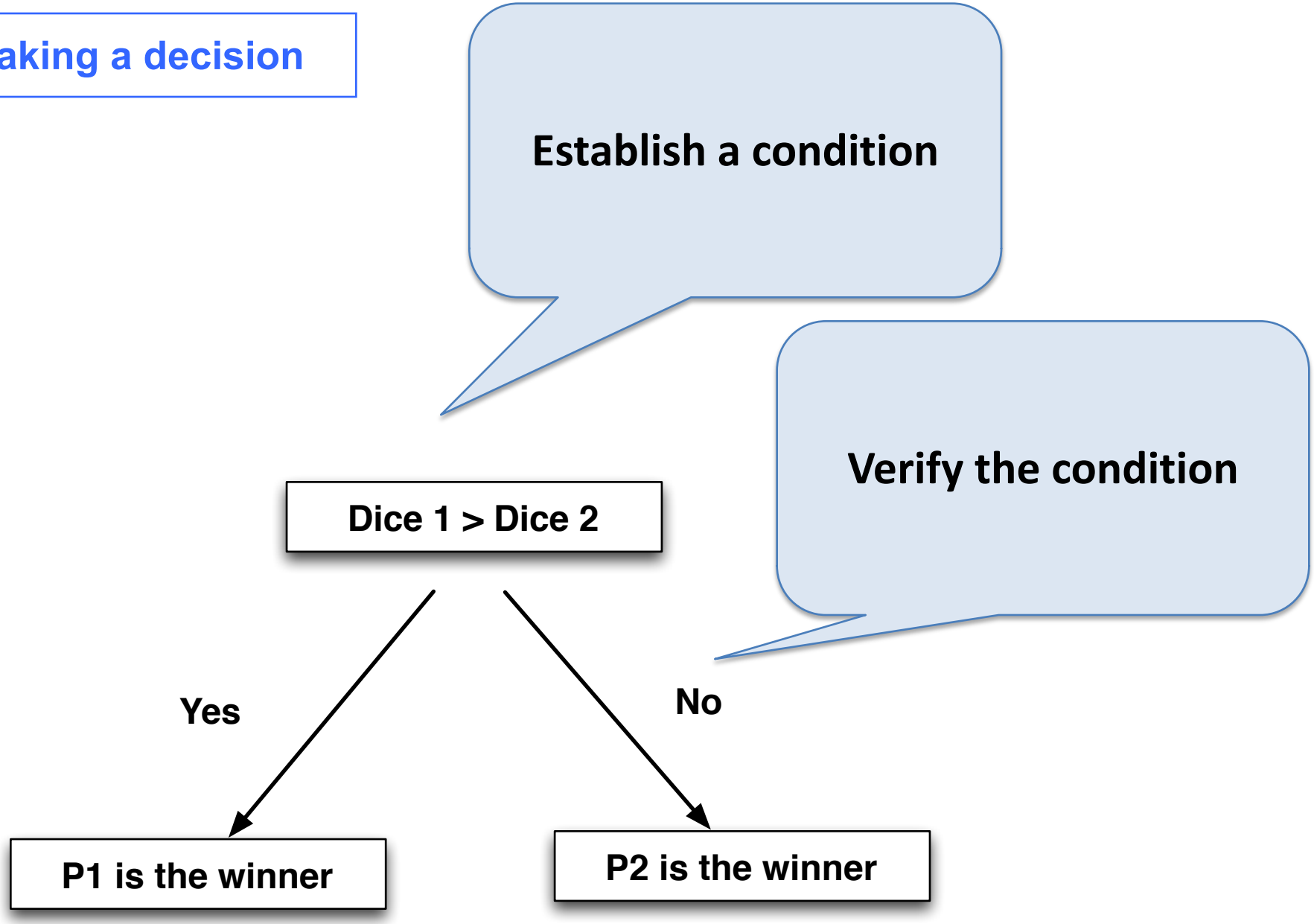

# Flow control: loops



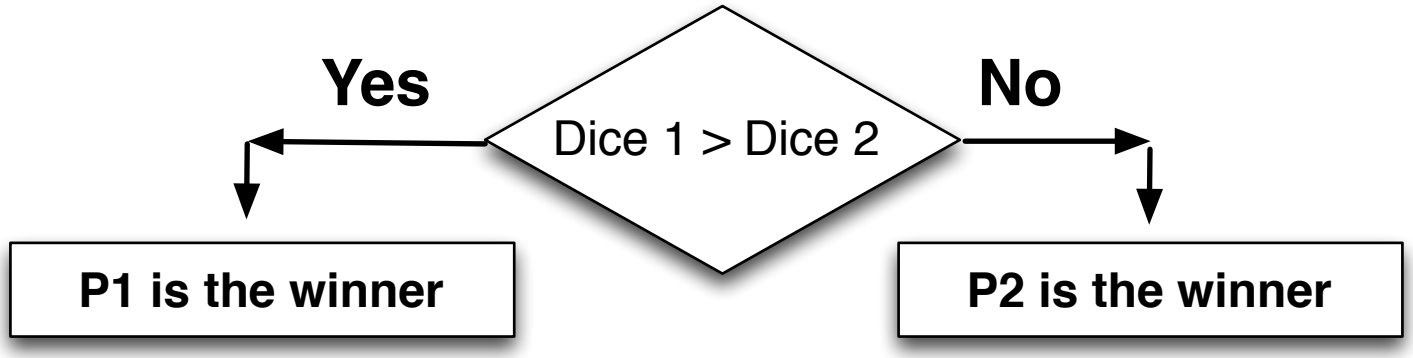
# Two people playing dice: establish the winner



# Taking a decision



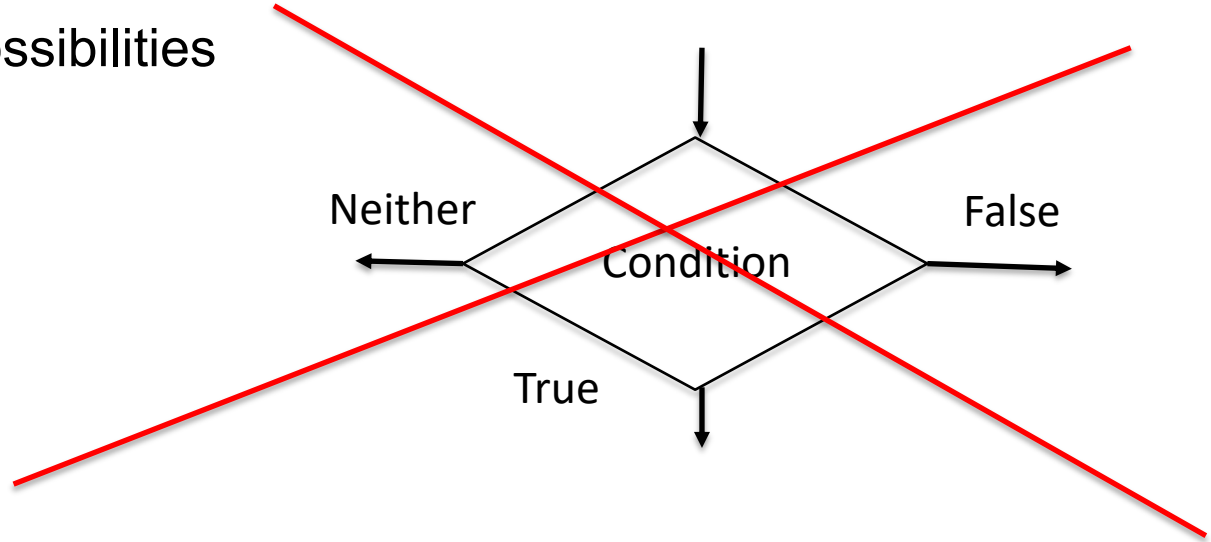
# Flow control: the IF statement

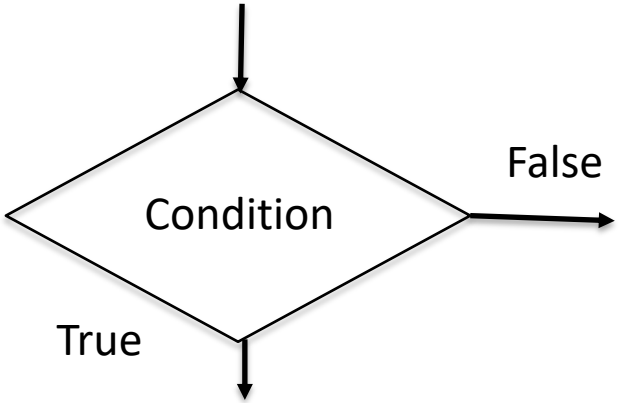



```
if Dice1 > Dice2:
    % P1 is the winner
    print('P1 is the winner')
else:
    % P2 is the winner
    print('P2 is the winner')
```

# Conditional branching

There are only two possibilities



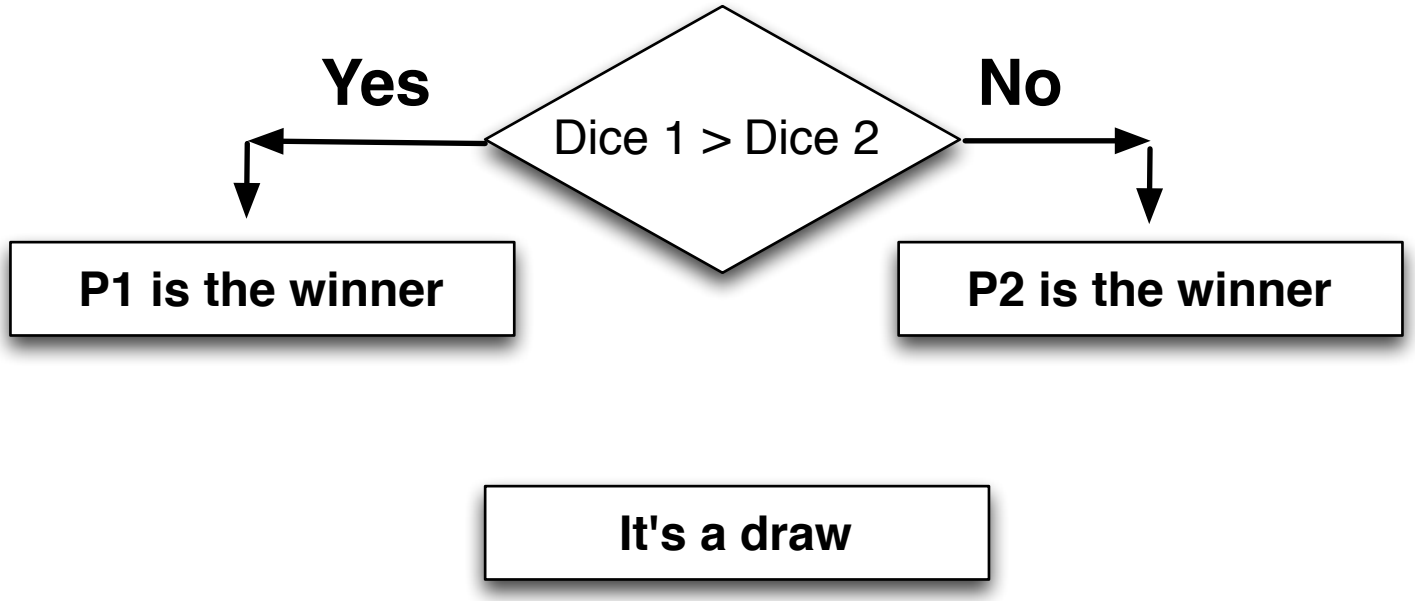

The condition is a Boolean condition: either is True or False

## Logical operators: Boolean logic

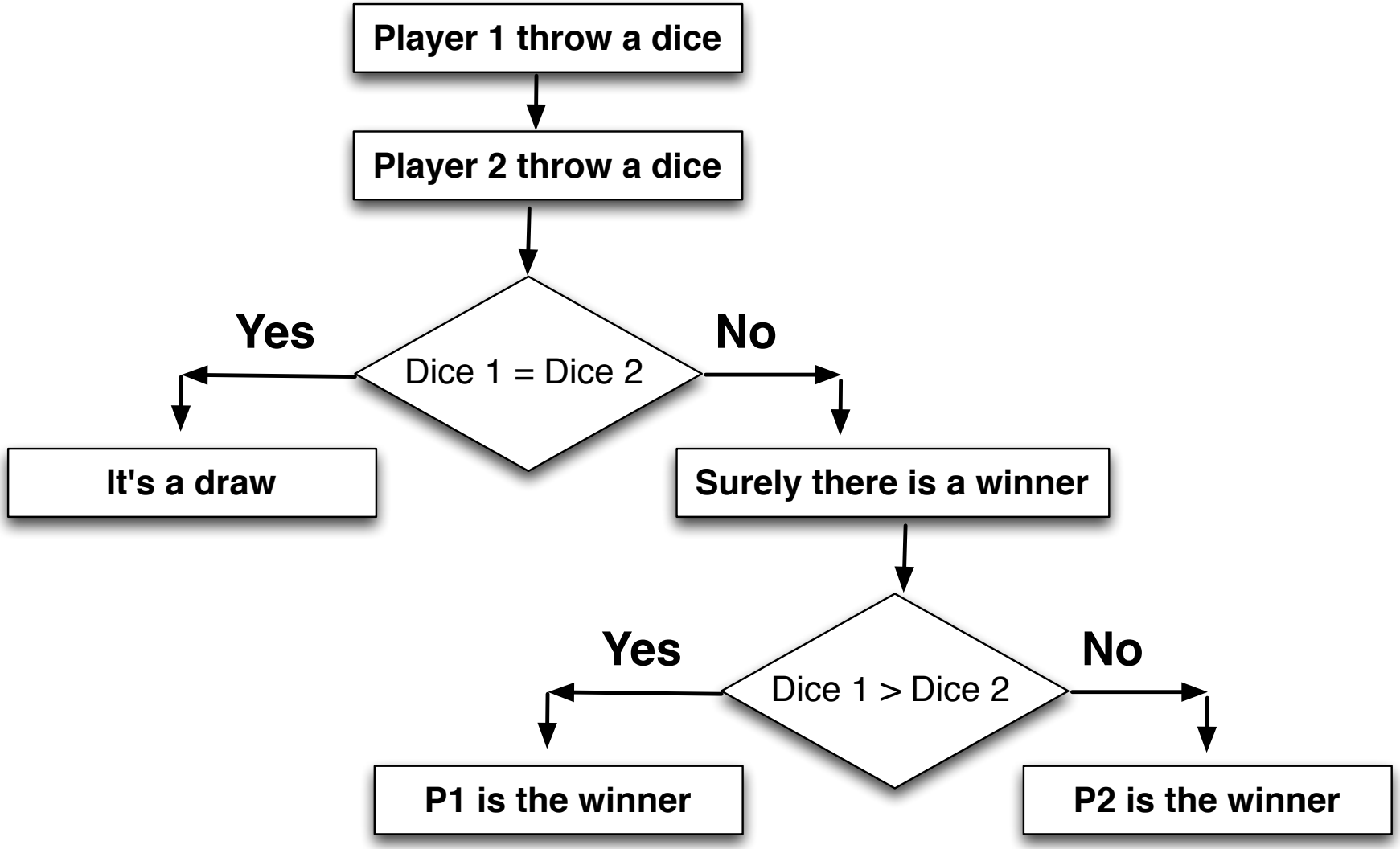
```
(a==b)   a equals b

(a~=b)   a not equal to b
(a<b)    a less than b
(a>b)    a greater than b
(a<=b)   a less or equal to b
(a>=b)   a greater or equal to b

(Condition1 & Condition2)    AND

(Condition1 | Condition2)    OR
```


```
x > a & x < b
```

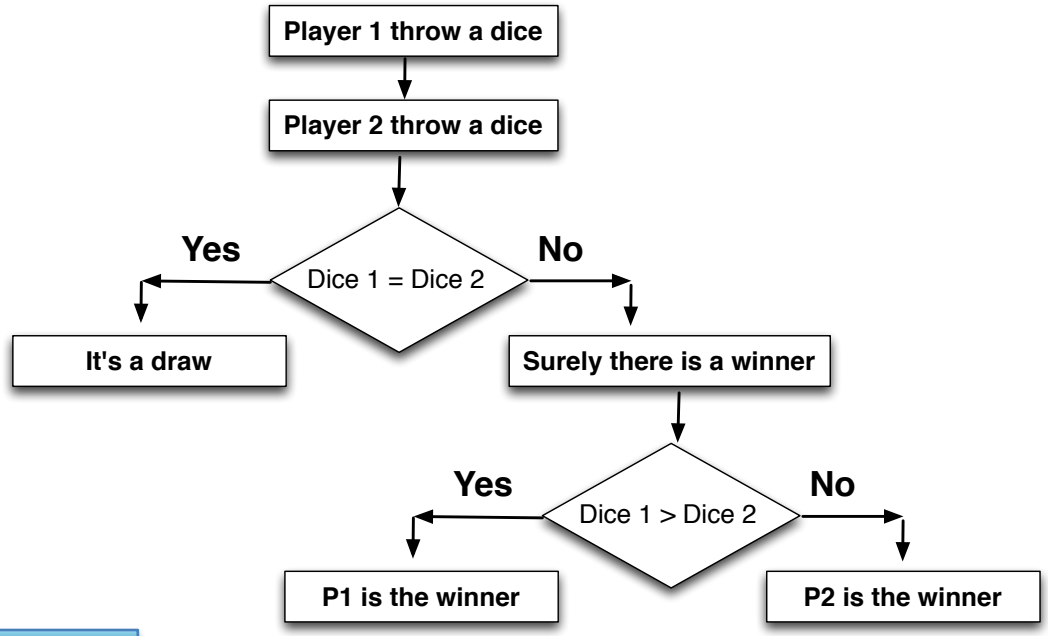
# Flow control: Condition within a condition



# Flow control: Condition within a condition

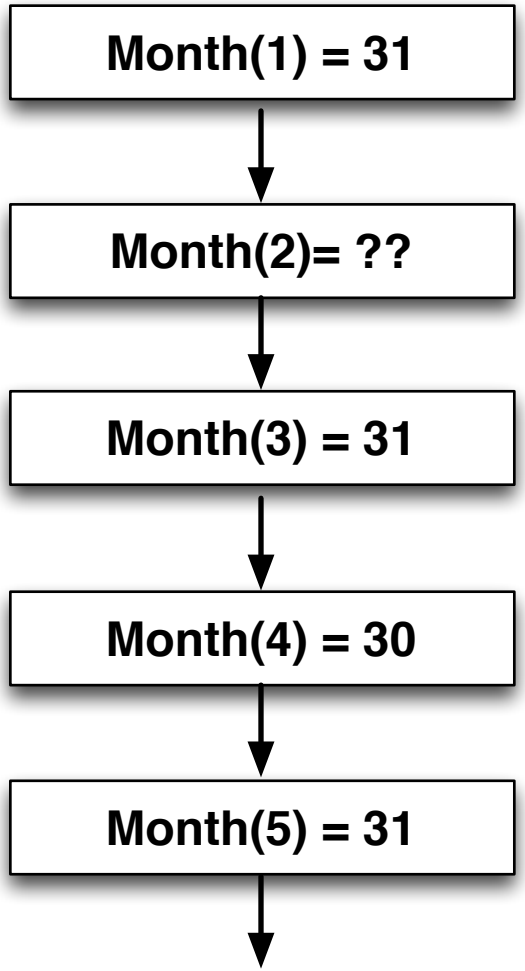


# Flow control: Condition within a condition

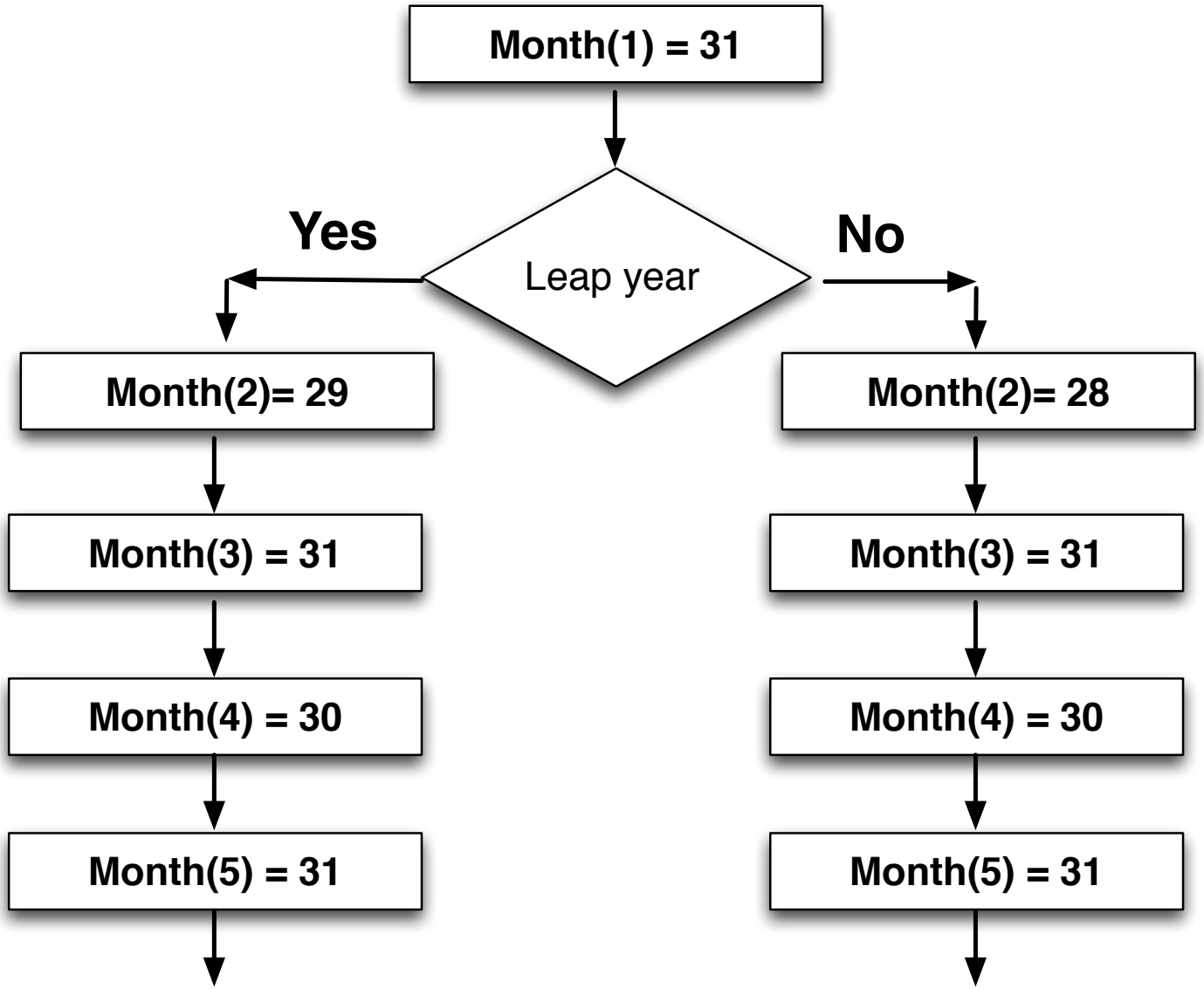



```
if Dice1 == Dice2:
    % it's a draw
    print('It's a draw')
else:
    % there is the winner
    if Dice1 > Dice2:
        % P1 is the winner
        disp('P1 is the winner')
    else:
        % P2 is the winner
        print('P2 is the winner')
```

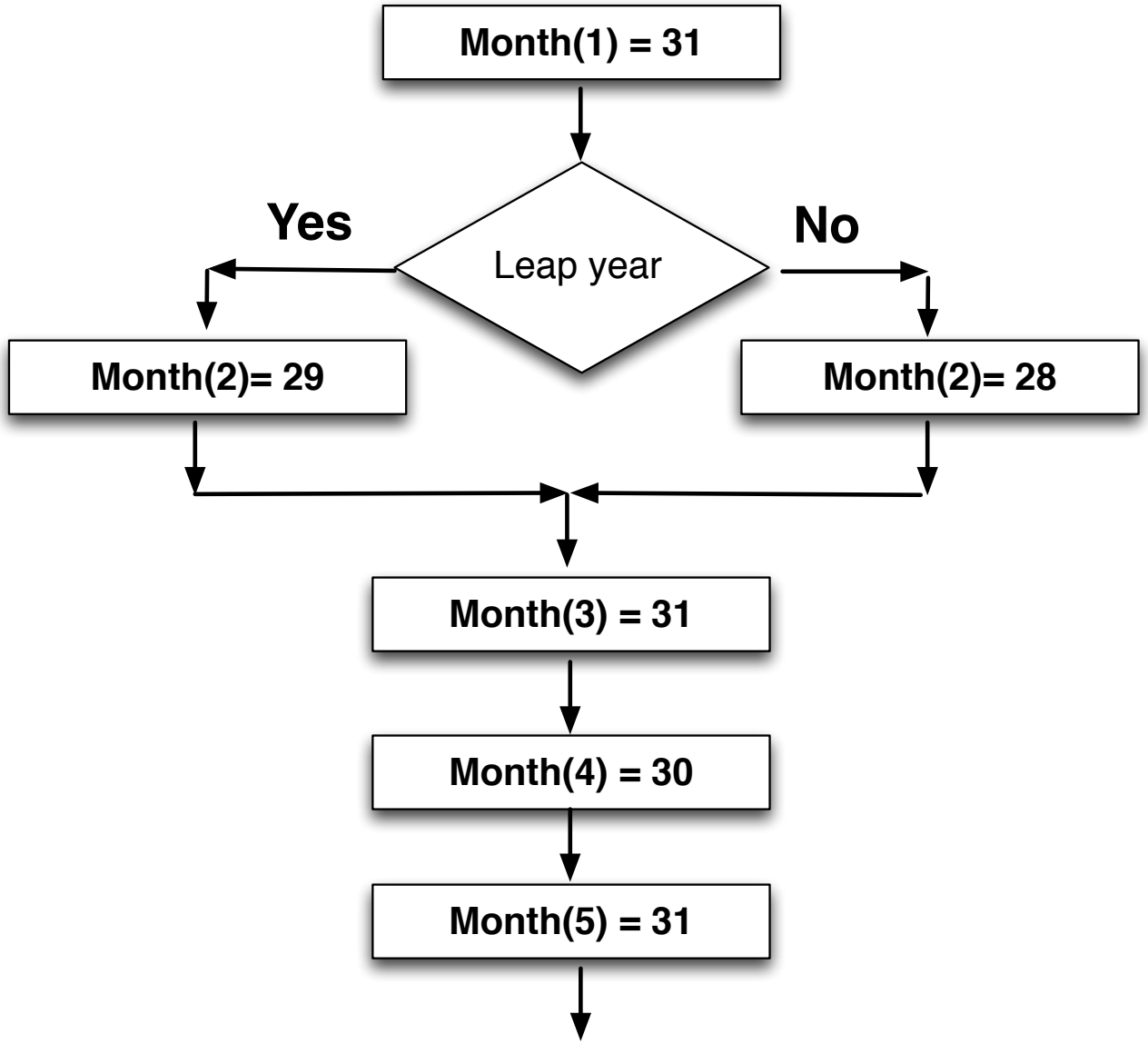
# Common instructions



# Common instructions



# Common instructions



## Key points to remember

- **Lists can be traversed with a for loop**

- **Flow Control**: the flow can be controlled and split into two paths