

COMP
110

CL07 - Boolean Operators and Conditionals

Boolean

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- Typically shown with relational operator and/or boolean operator

Boolean

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- Typically shown with **relational operator** and/or boolean operator
 - "Hello" == "hello"
 - 4 >= 2

Boolean Operators

- not, and, or
- Can be used to express more with booleans
 - It is not rainy: `weather != rain`

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 - It is not rainy: (weather != rain)
 - It is rainy and it is cold: (weather == "rain") **and** (weather == "cold")

Boolean Operators

- not, and, or
- Can be used to express more with booleans
 - It is not rainy: (weather != rain)
 - It is rainy and it is cold: (weather == rain) **and** (weather == cold)
 - It is rainy or it is snowy: (weather == rain) **or** (weather == snow)

Not

- `not` inverts the value of a boolean expression

b	<code>not b</code>

and

- booleans combined with **and** evaluate to True if and only if both booleans are True

a	b	a and b

or

- booleans combined with **or** evaluate to True if at least one is True

a	b	a or b

Ordering

P

E

MD

AS

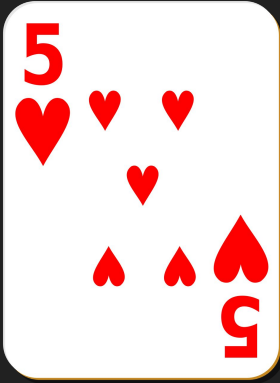
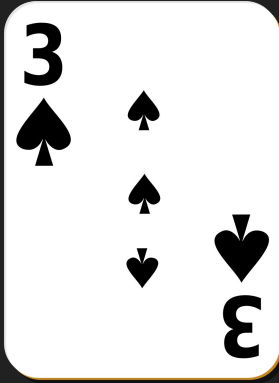
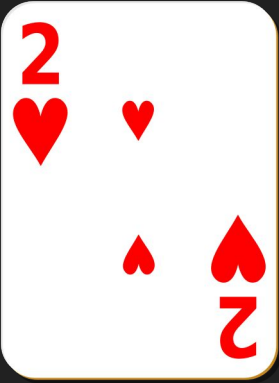
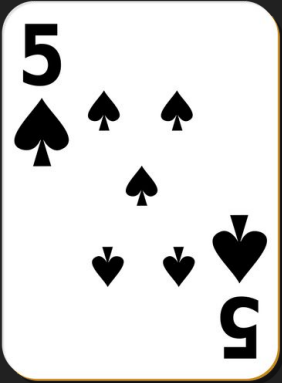
not

and

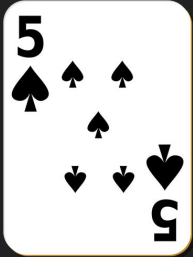
or

Conditionals

Recall: Finding the Lowest Card

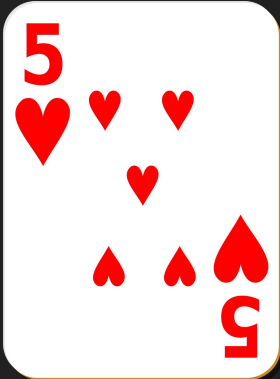
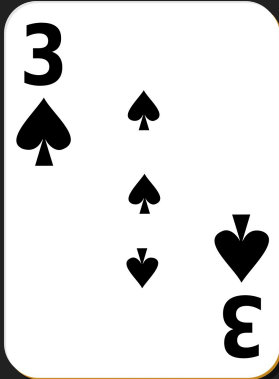
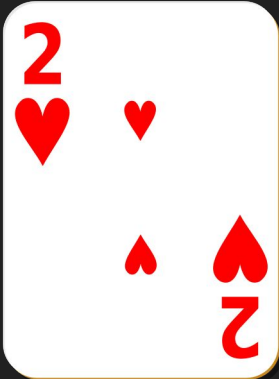
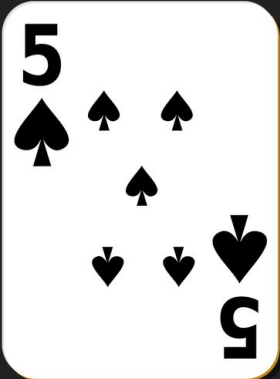


Low card:



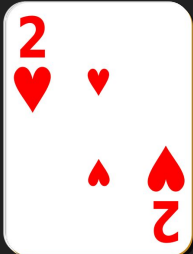
If current card < low card,
make it the low card.

Recall: Finding the Lowest Card



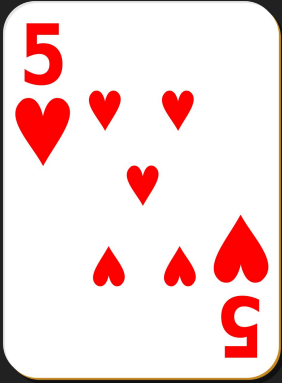
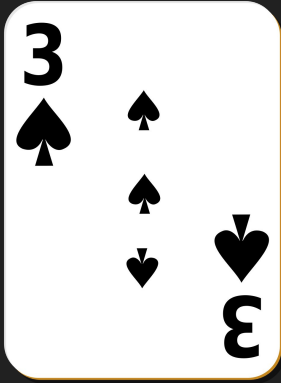
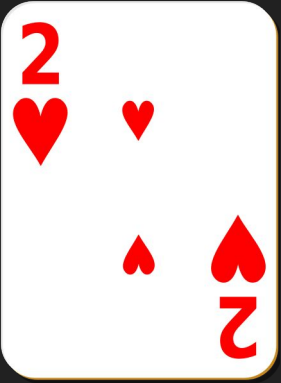
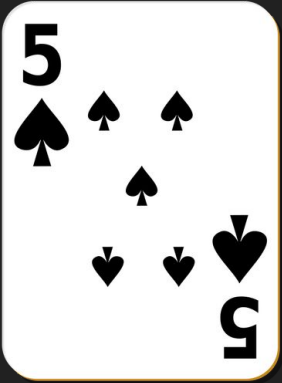
2 < 5? ✓

Low card:



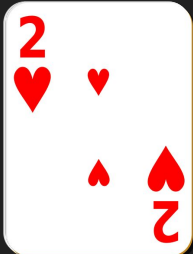
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3 < 2? 

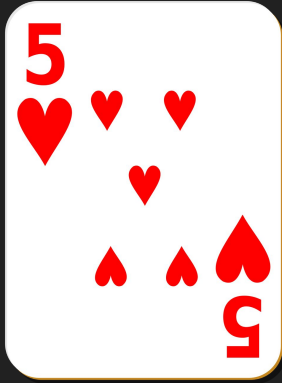
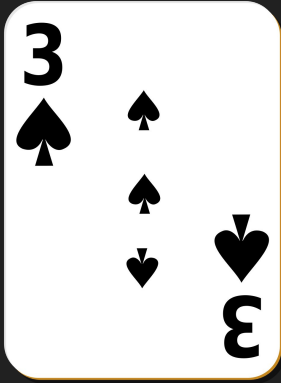
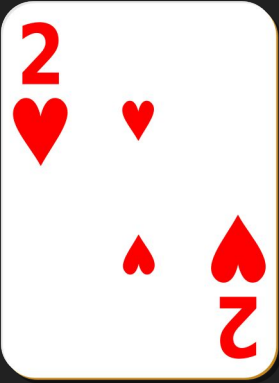
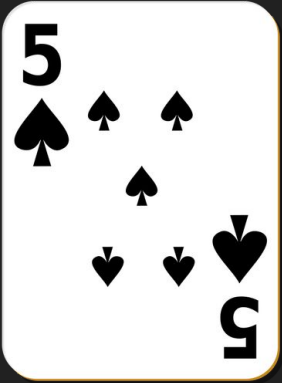
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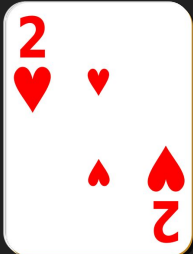


Recall: Finding the Lowest Card



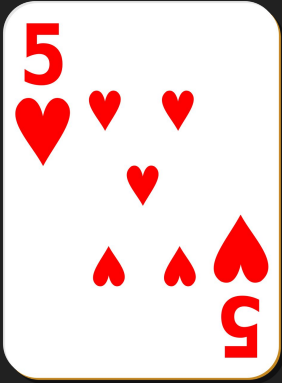
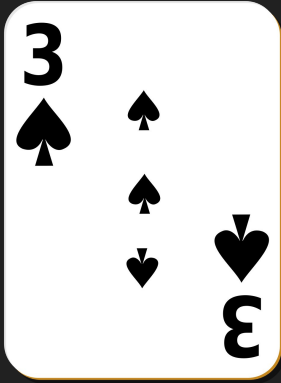
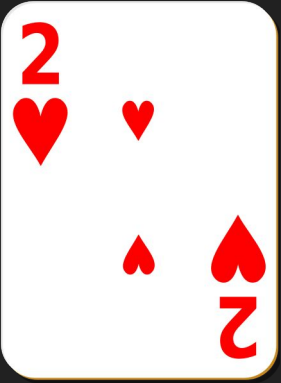
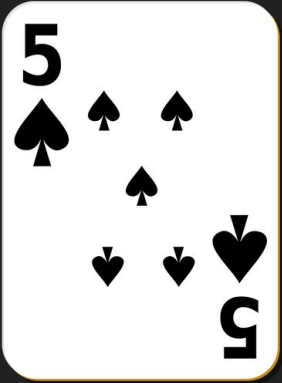
5 < 2? 

Low card:



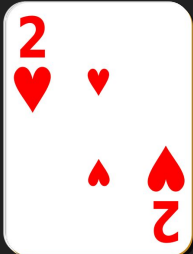
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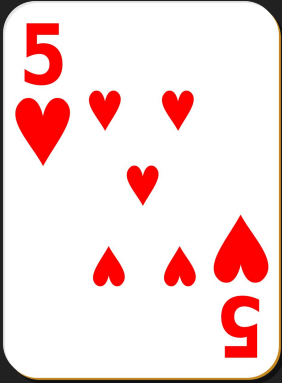
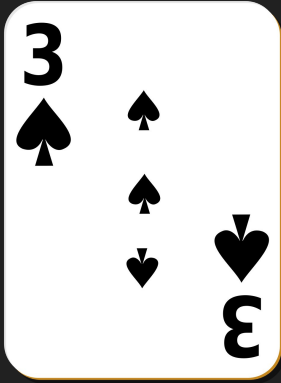
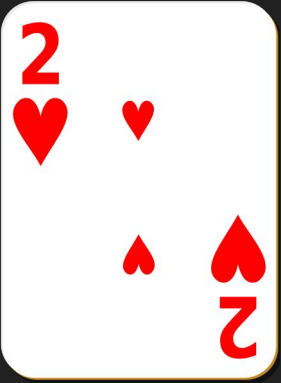
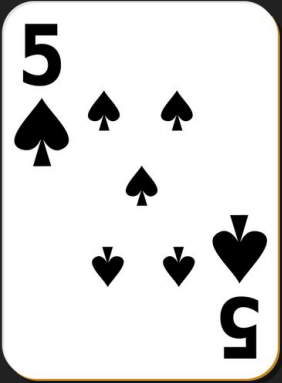
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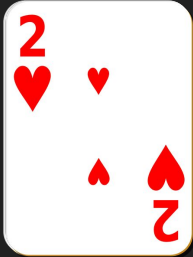


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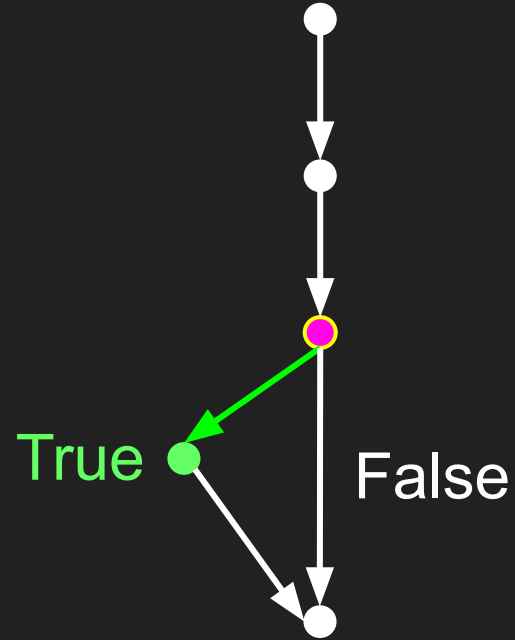
Conditional Statement



If current card < low card,
make it the low card.

Conditional Statements

```
if <something>: ← bool  
    <do something>  
<rest of program>
```



Conditional Statements

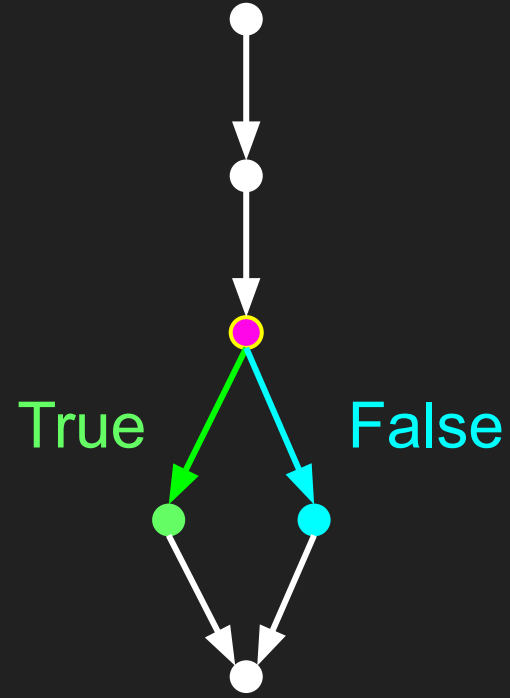
if <something>:

 <do something>

else:

 <do something else>

<rest of program>



Conditional Statements

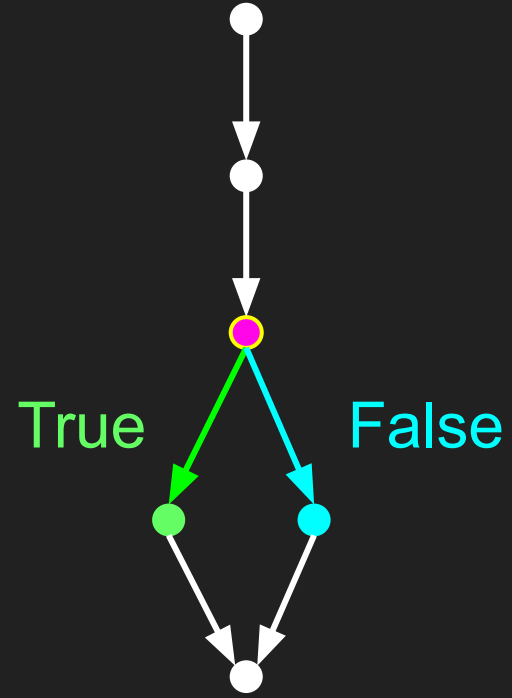
if <something>:

 <do something>

else:

 <do something else>

<rest of program>



Discussion

What is a decision you make in your day-to-day that you can express as an conditional (if-else) statement?

E.g. If I my assignment is due tomorrow, I start working on it. Else (it's not due tomorrow), I procrastinate another day.

(This is bad behavior and I don't condone it!)

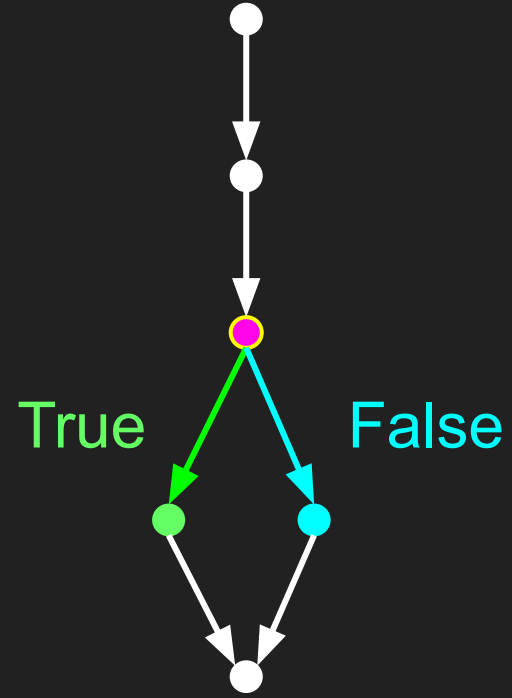
Conditional Statements

if

:



else:



Practice

Write a function called `check_first_letter` that takes as input two `strs`: `word` and `letter`

It should return `"match!"` if the first character of `word` is `letter`

Otherwise, it should return `"no match!"`

Examples:

- `check_first_letter(word="happy", letter="h")` would return `"match!"`
- `check_first_letter(word="happy", letter="s")` would return `"no match!"`