COMP 110

CL02

Boolean Operators

Boolean

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- Typically shown with relational operator and/or boolean operator

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- Typically shown with relational operator and/or boolean operator
  - weather == “rainy”
  - x >= 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)

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- 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	not b

and

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

a	b	a and b

and

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

a	b	a or b

Ordering

P

E

MD

AS

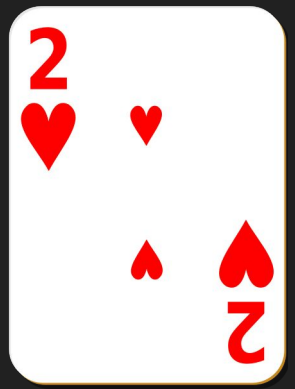
not

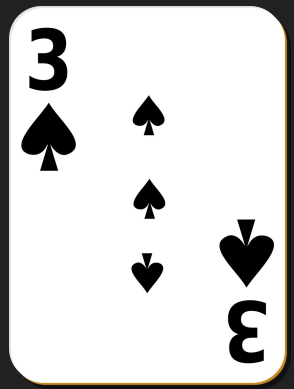
and

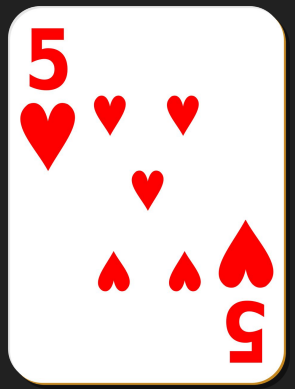
or

Conditionals

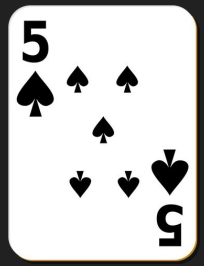
Recall: Finding the Lowest Card





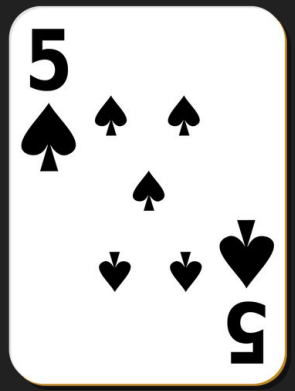


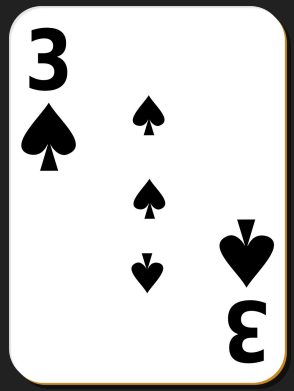
Low card:

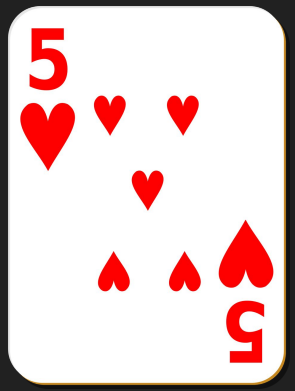


If current card < low card, make it the low card.

Recall: Finding the Lowest Card

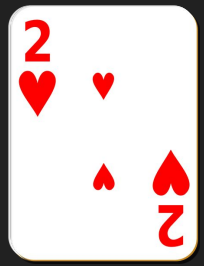






2 < 5? ✓

Low card:



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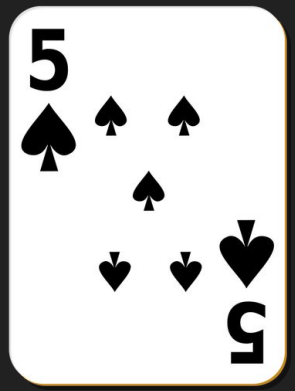
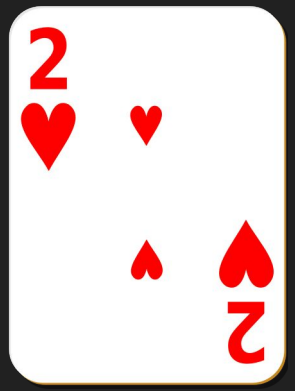
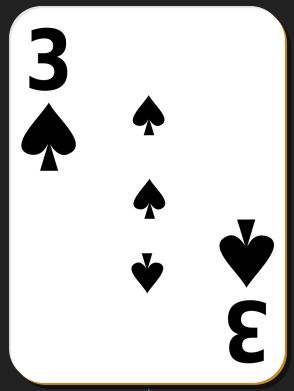
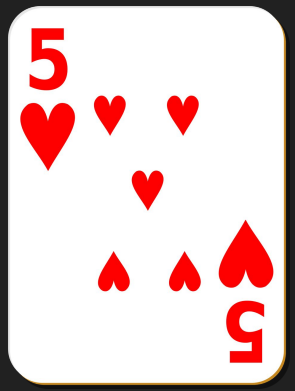


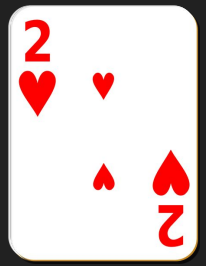






3 < 2? ✗

Low card:



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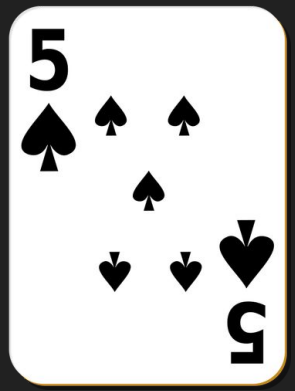
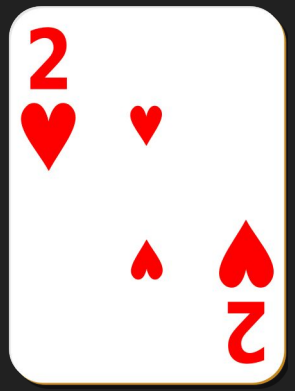
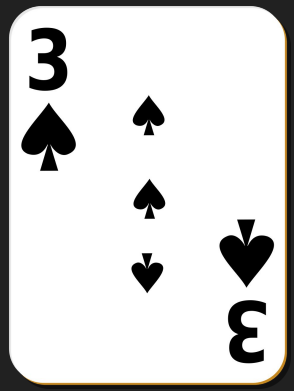
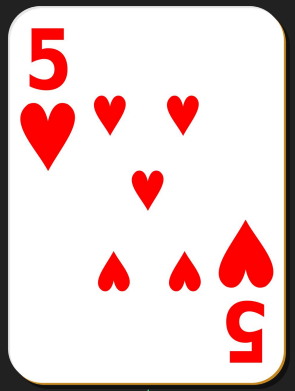


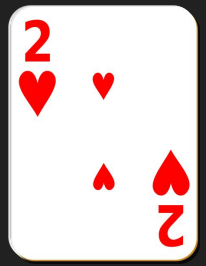






5 < 2?

Low card:



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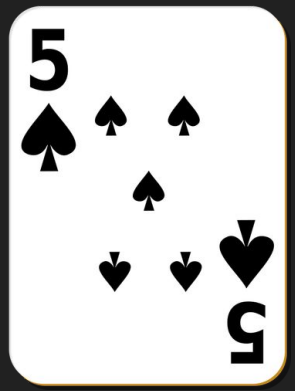

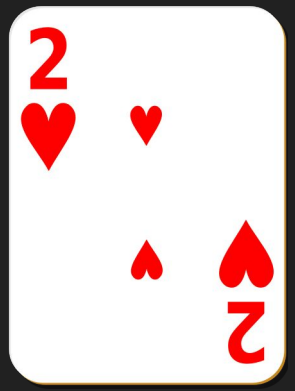

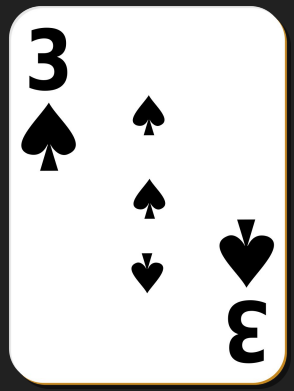

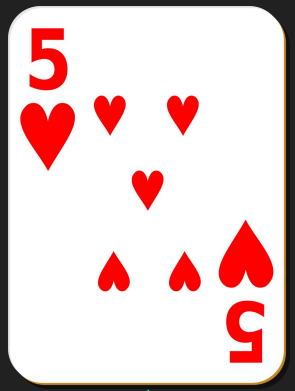

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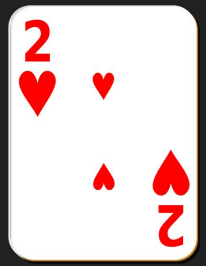

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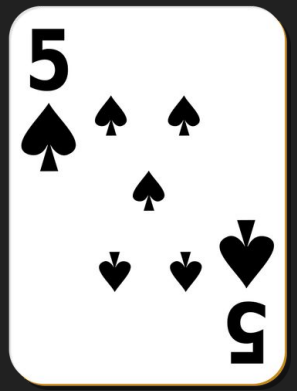

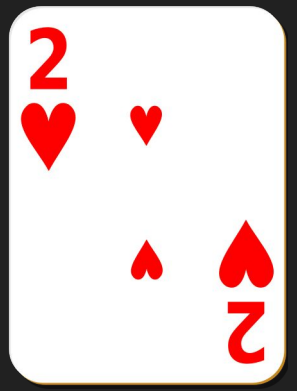

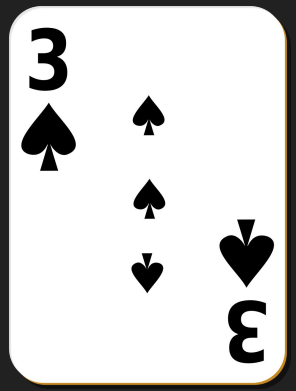

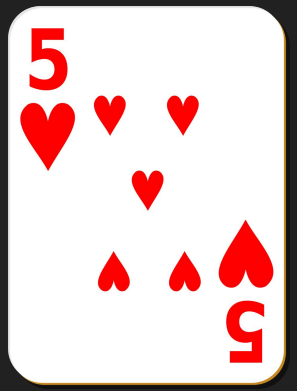

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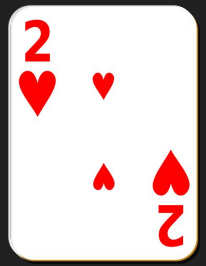


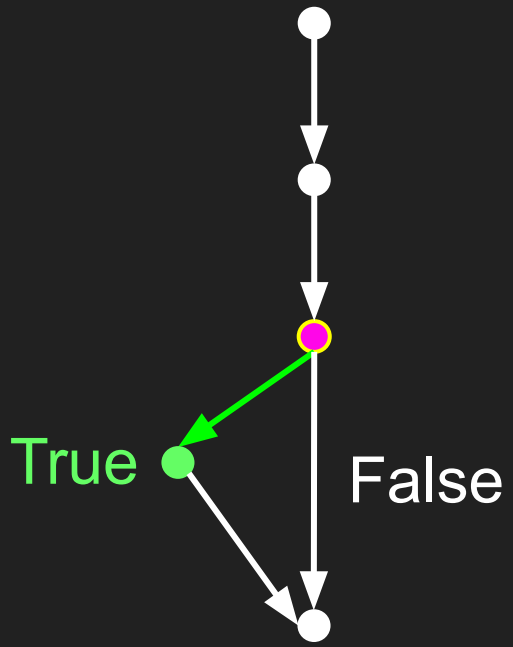
Conditional Statement

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

Conditional Statements

bool

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



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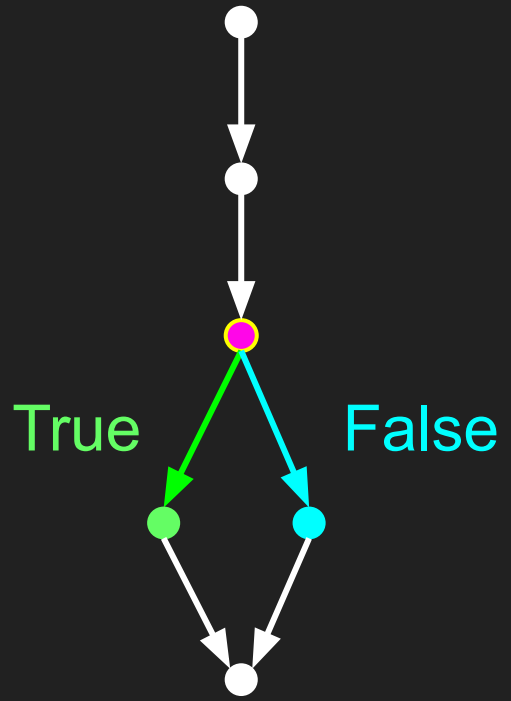

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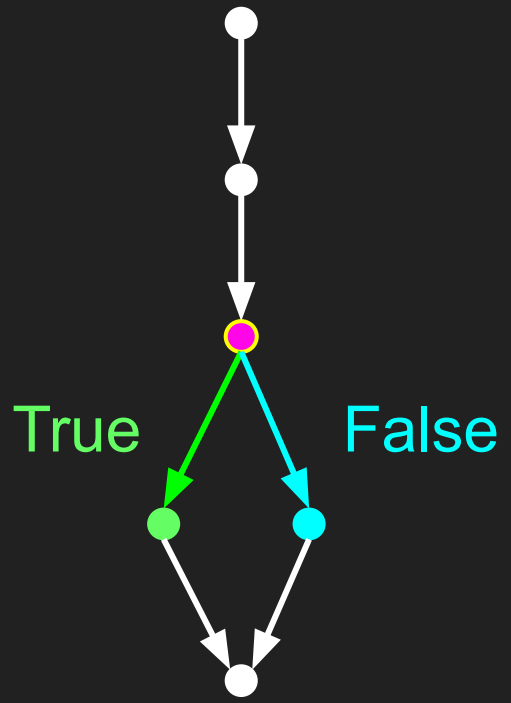


Discussion

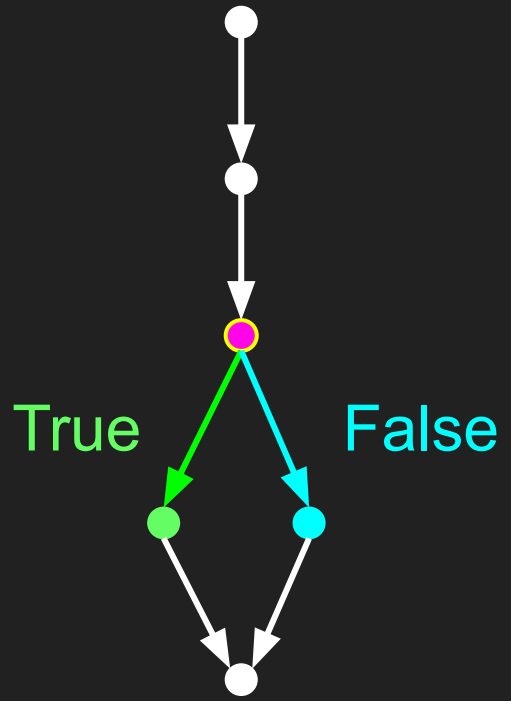
What is a decision you make in your day-to-day that you can express as an conditional (if-else) statement?

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 program that prints “Even” if my_number is even and “Odd” if my_number is odd.
(Hint: You will want to use % and the relational operator == from LS03)

```
1  my_number_string: str = input("Guess a number: ")
2  my_number: int = int(my_number_string)
3
4
5
6
```