THE STACK

THE STACK

A STACK IS A DATA STRUCTURE TO HOLD ELEMENTS SUCH THAT THE LAST ELEMENT YOU ADD TO THE STACK IS THE FIRST ONE YOU ACCESS

LIFO

LAST IN FIRST OUT

MAJOR OPERATIONS THAT YOU PERFORM ON THE STACK ARE ALWAYS FOCUSED ON ONE END OF THE STACK, CALLED THE TOP

THE STACK

ADDING A NEW ELEMENT TO THE TOP OF THE STACK IS CALLED

PUSH

PUSH AN ELEMENT TO THE TOP OF A STACK

REMOVING AN ELEMENT FROM THE TOP OF A STACK IS CALLED

POP

POP AN ELEMENT FROM THE TOP OF A STACK

THE STACK

WHAT IF YOU DON'T WANT TO REMOVE THE ELEMENT AT THE TOP OF A STACK?

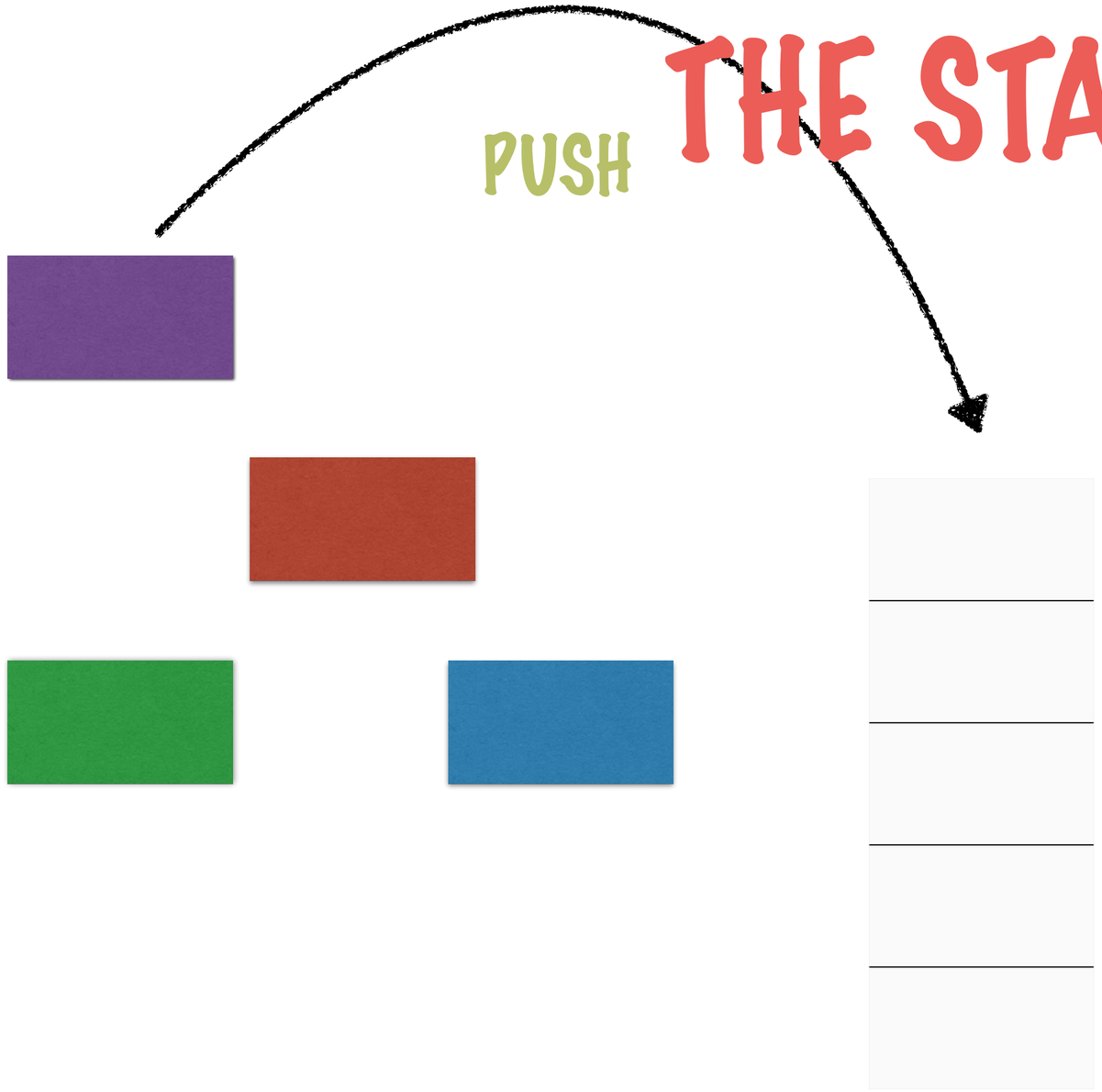
SAY YOU JUST WANT TO SEE WHAT IT IS?

PEEK

PEEK AT THE TOP ELEMENT OF A STACK

PEEK LET'S YOU ACCESS THE TOP ELEMENT IN THE STACK WITHOUT ACTUALLY CHANGING THE DATA STRUCTURE

PUSH THE STACK



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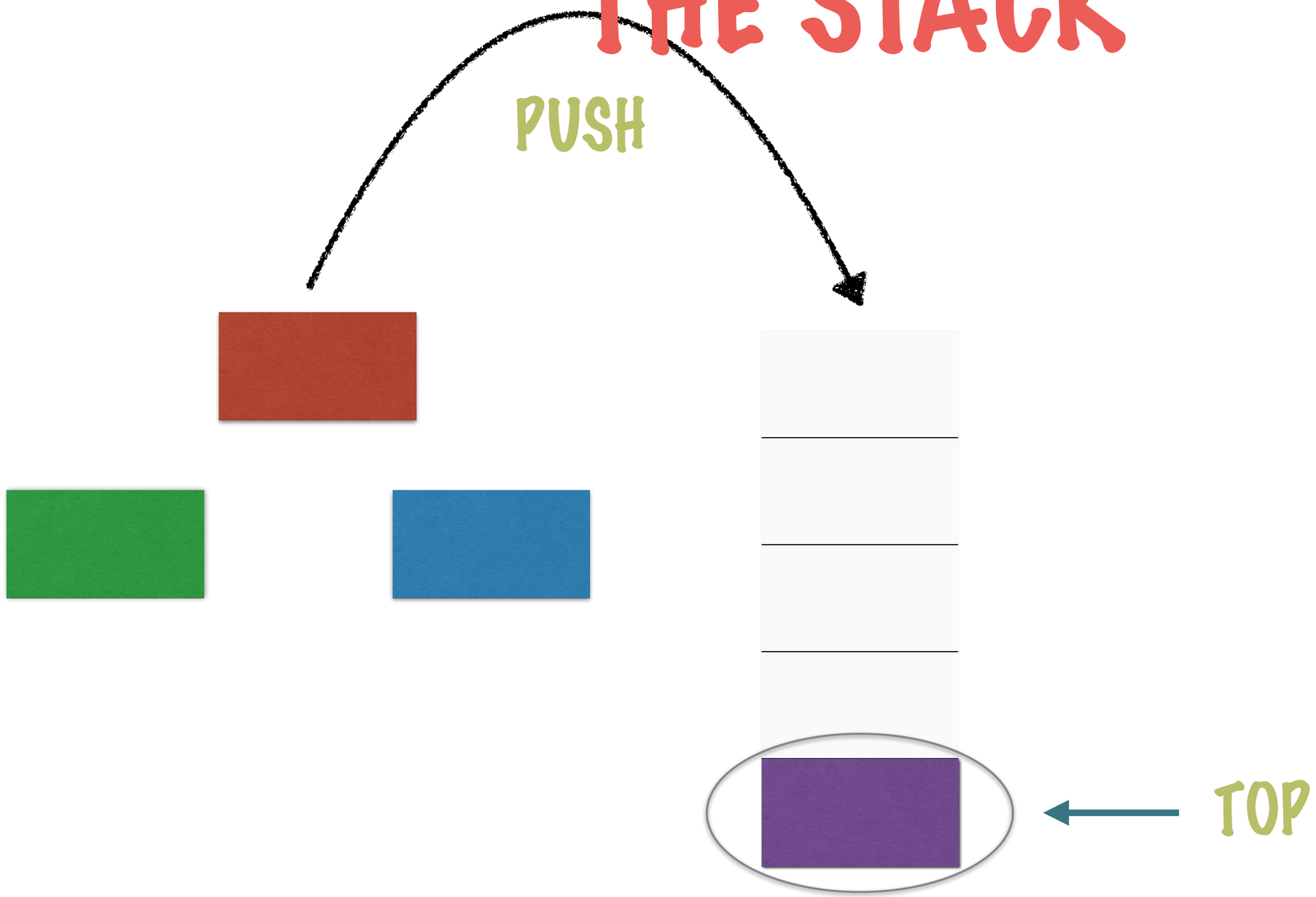

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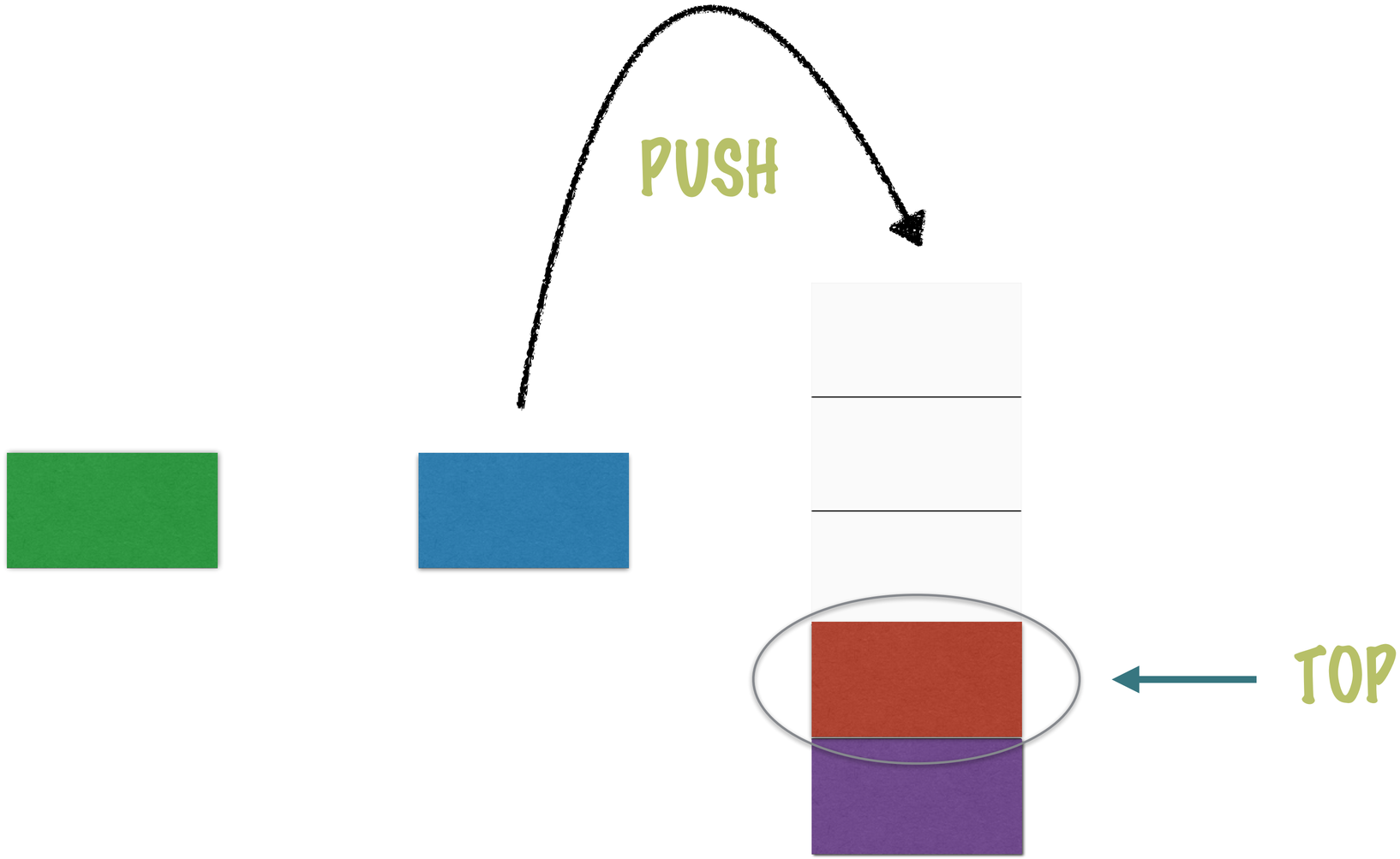

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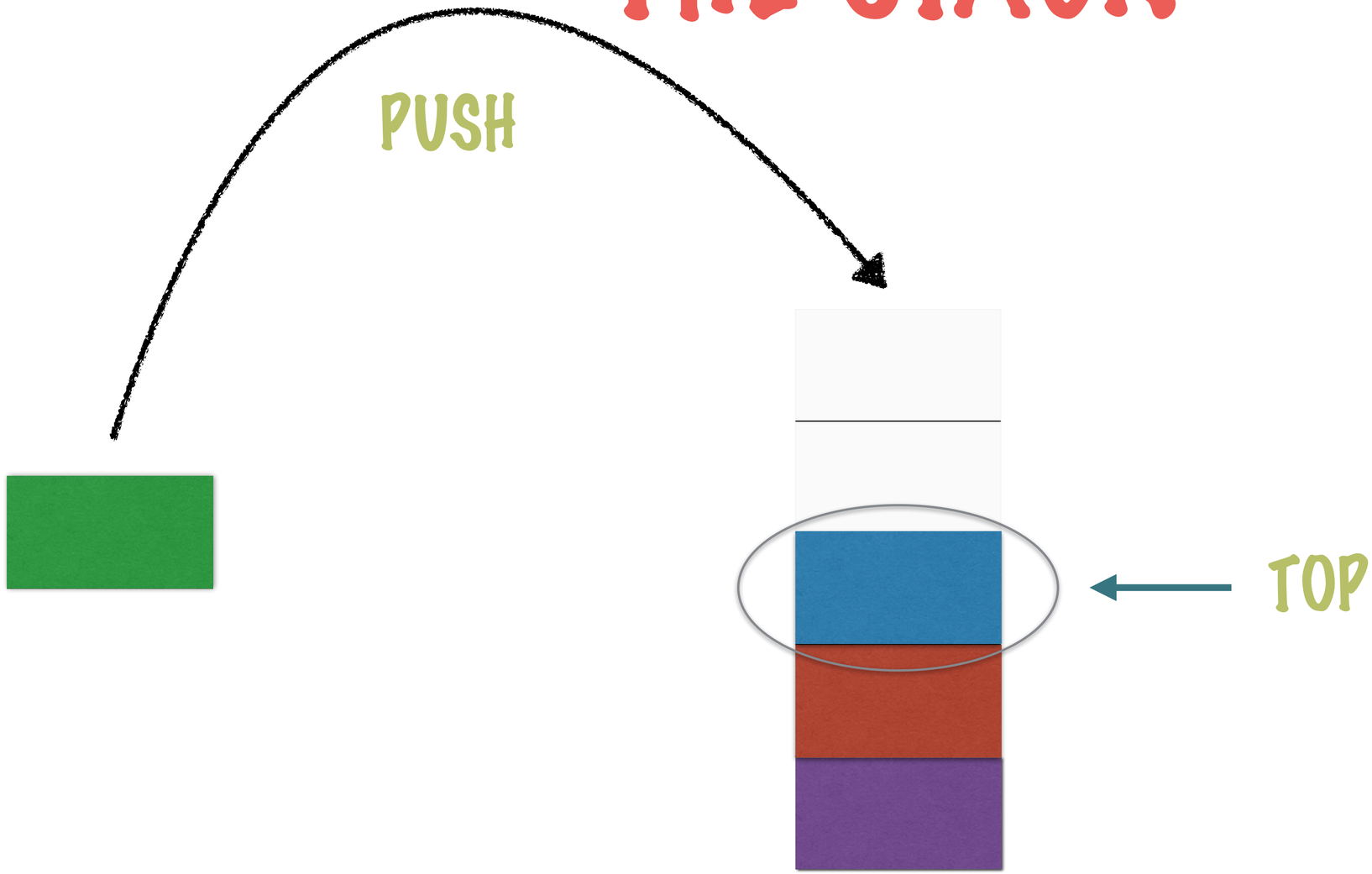

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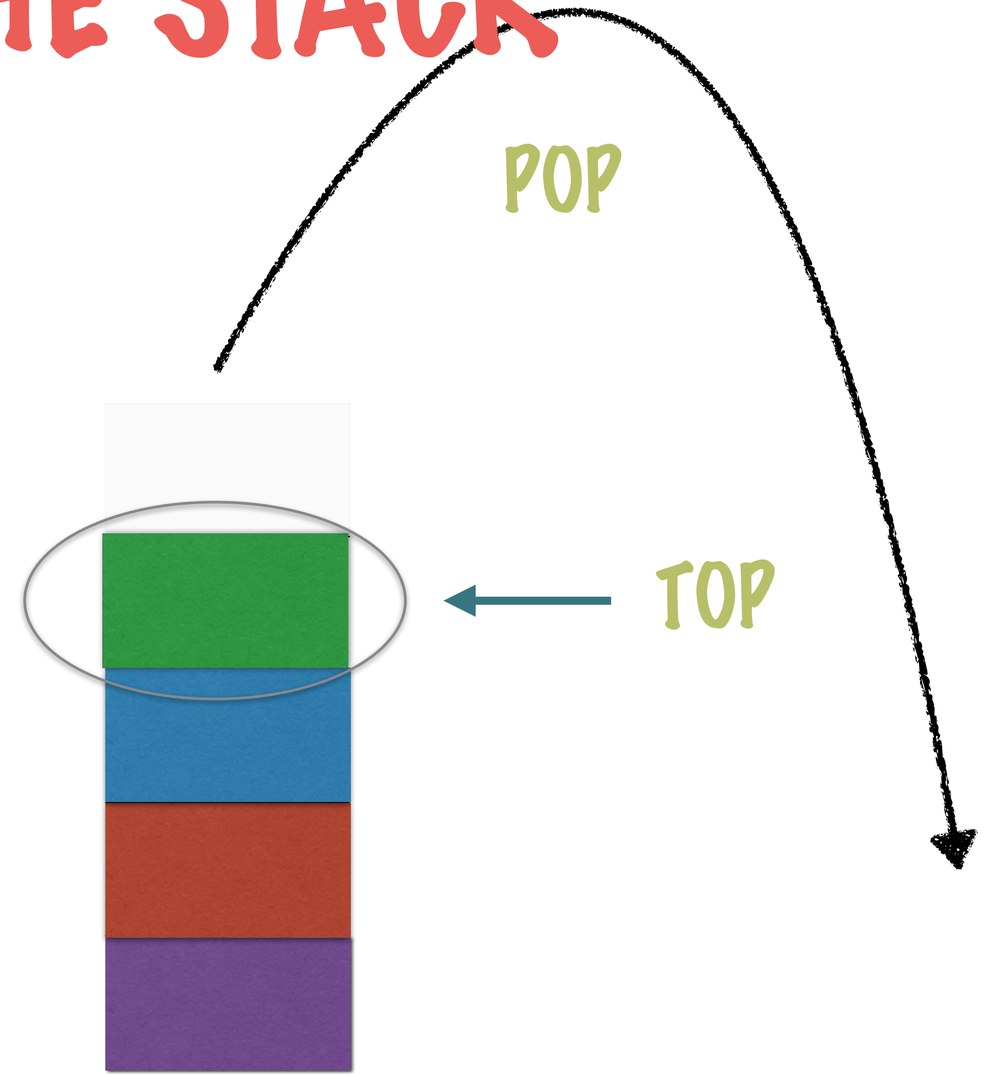

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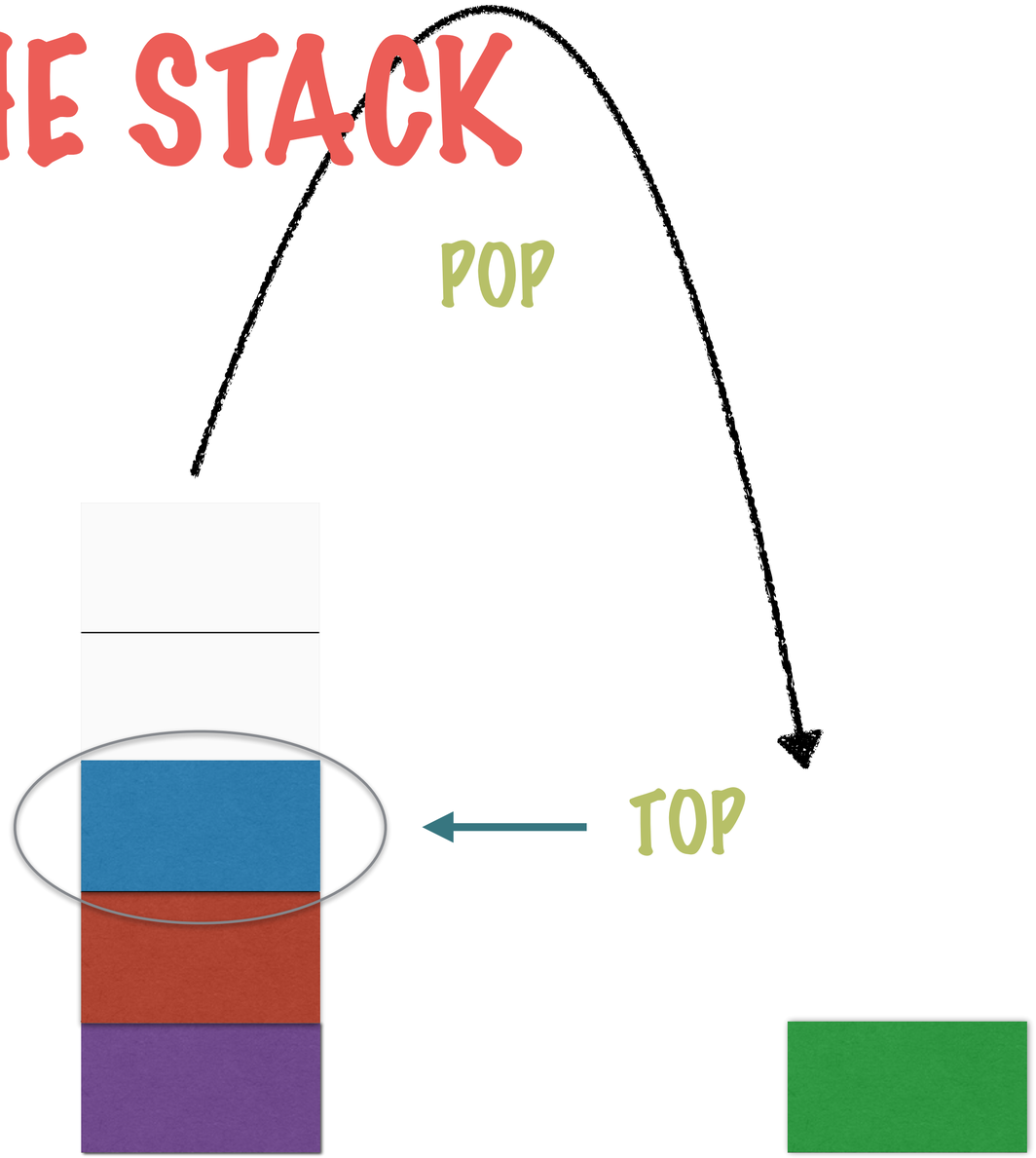

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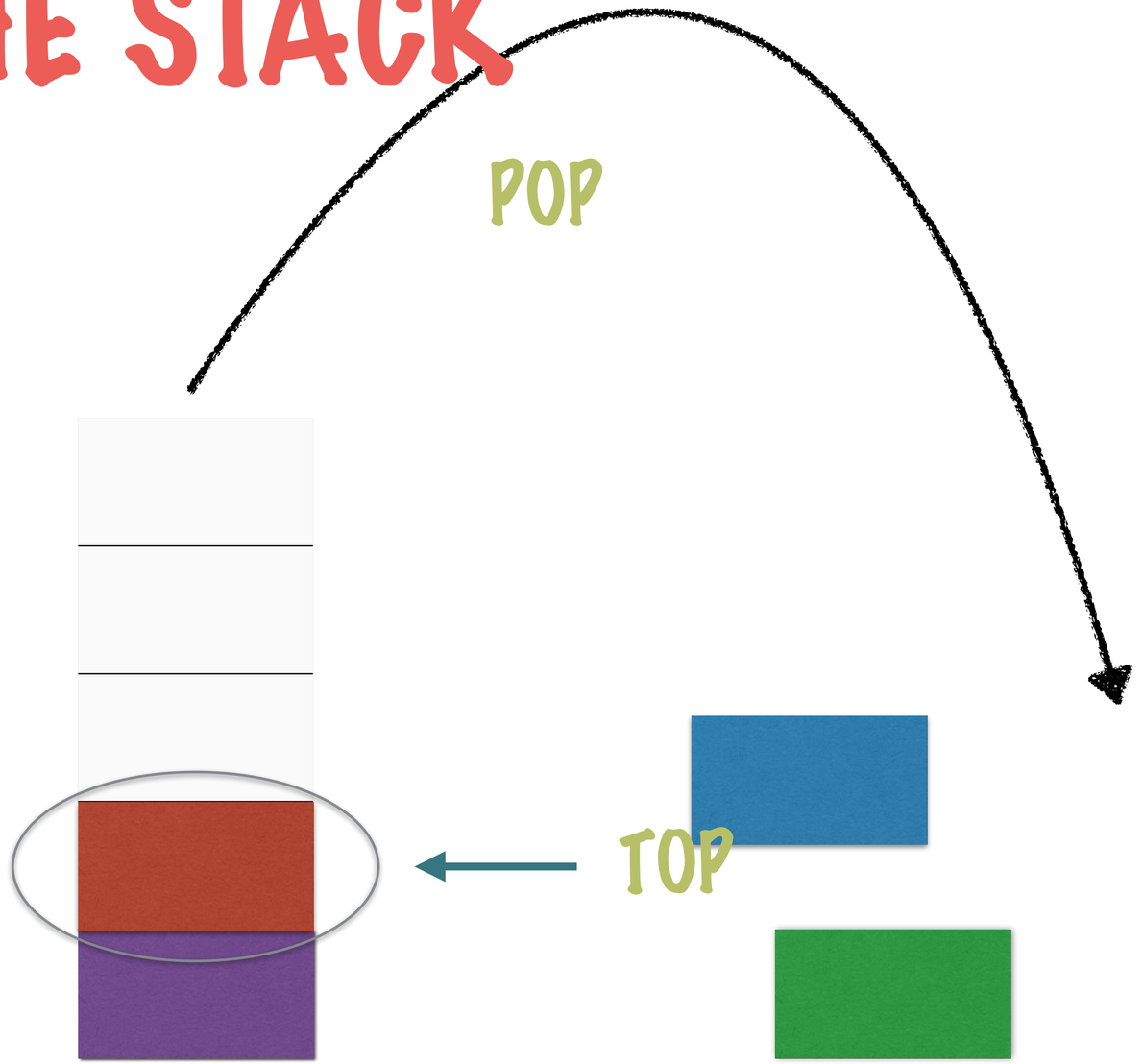

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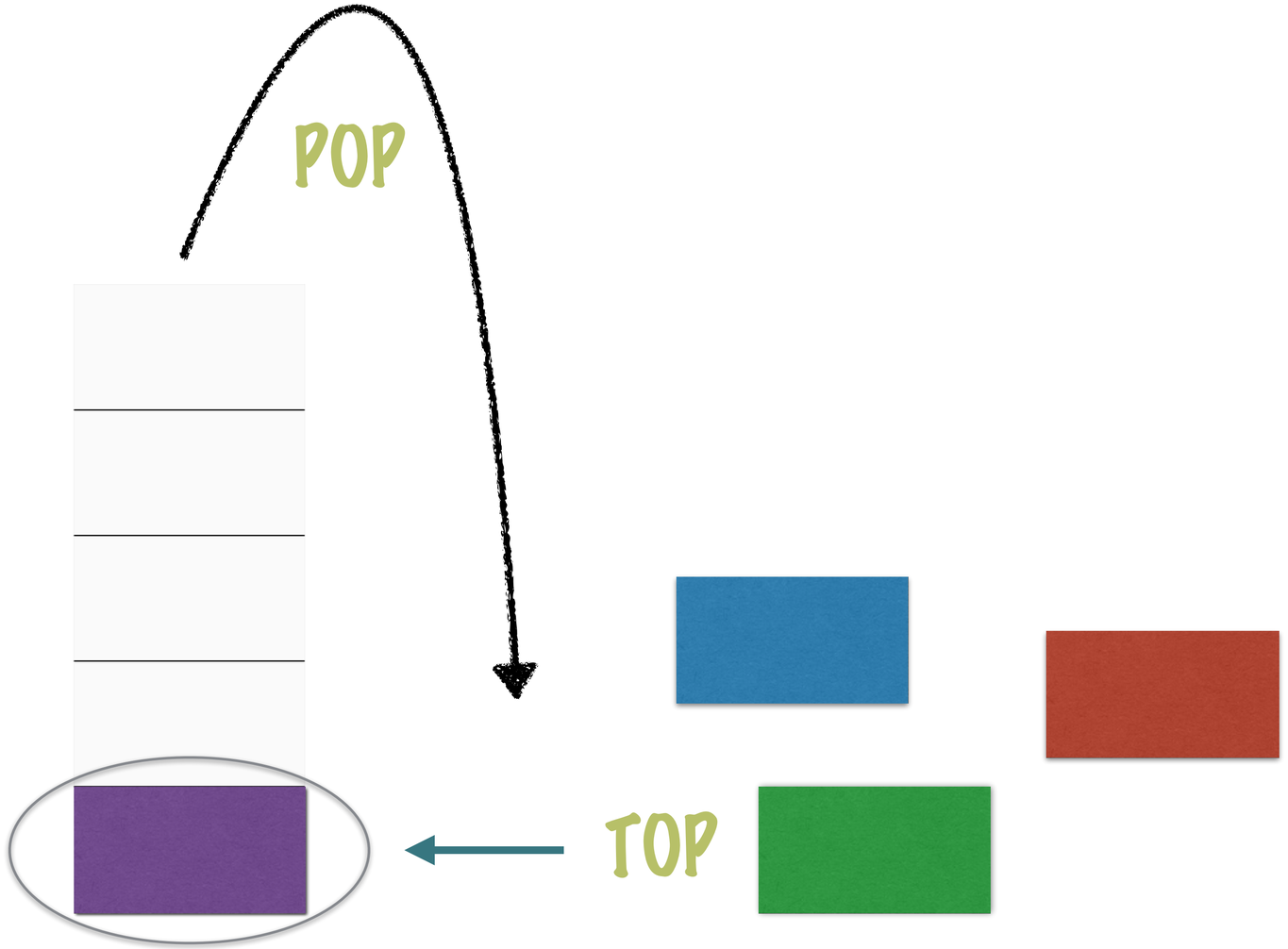

THE STACK

THE STACK

COMMON OPERATIONS ON THE STACK:

PUSH POP PEEK

OTHER OPERATIONS WHICH ARE USEFUL:

ISEMPTY ISFULL

SIZE

THE STACK

WHAT IF YOU TRY TO POP FROM AN EMPTY STACK?

OR TRY TO PUSH INTO A FULL STACK?

IT'S AN ERROR, THROW AN EXCEPTION!

THE STACK - UNDERLYING DATA STRUCTURE

THE MOST COMMON OPERATIONS ON A STACK INVOLVE PUSHING AND POPPING ELEMENTS FROM THE TOP

THE OPERATIONS ARE CONFINED TO ONE END OF THE STACK

A LINKED LIST LENDS ITSELF PERFECTLY TO BUILD A STACK