4 STEPS TO SOLVE ANY PROBLEM

1 Make sure you 100% understand the problem. **Ask the right questions** to get a clear picture of the problem

💬 Project Manager: *"We need a function that reverses* whatever *we pass into it"*

1 👉 What does "whatever" even mean in this context? What should be reversed? **Answer:** Only strings, numbers, and arrays make sense to reverse...

👉 What to do if something else is passed in?

👉 What should be returned? Should it always be a string, or should the type be the same as passed in?

👉 How to recognize whether the argument is a number, a string, or an array?

👉 How to reverse a number, a string, and an array?

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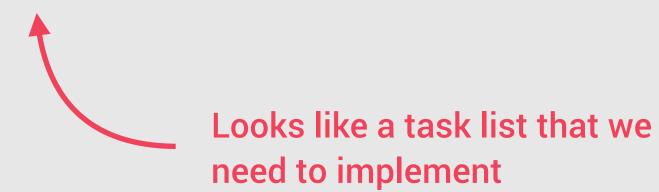
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2 **Divide and conquer:** Break a big problem into smaller sub-problems.

💬 Project Manager: *"We need a function that reverses whatever we pass into it"*

2 **SUB-PROBLEMS:**

👉 Check if argument is a number, a string, or an array

👉 Implement reversing a number

👉 Implement reversing a string

👉 Implement reversing an array

👉 Return reversed value

Looks like a task list that we need to implement

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3 Don't be afraid to do as much **research** as you have to

EXAMPLE

💬 Project Manager: *"We need a function that reverses whatever we pass into it"*

3 👉 How to check if a value is a number in JavaScript?

👉 How to check if a value is a string in JavaScript?

👉 How to check if a value is an array in JavaScript?

👉 How to reverse a number in JavaScript?

👉 How to reverse a string in JavaScript?

👉 How to reverse an array in JavaScript?

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4 For bigger problems, **write pseudo-code** before writing the actual code

EXAMPLE

💬 Project Manager: *"We need a function that reverses whatever we pass into it"*

4
```
function reverse(value)
  if value type !string && !number && !array
    return value


  if value type == string
    reverse string
  if value type == number
    reverse number
  if value type == array
    reverse array


  return reversed value
```