

TESTES AUTOMATIZADOS

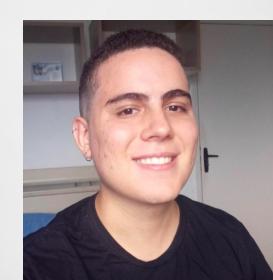
Monitoria - Engenharia de Software

Nosso Time



Maria Estela Souza

Engenheira de Software



Vinicius da Rosa

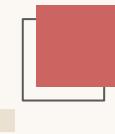
Engenheiro de Software

Roteiro da monitoria

1. Introdução a testes
2. Por que testar?
3. Tipos de teste
4. Boas práticas ao escrever testes
5. Na prática

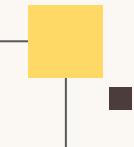
A **qualidade** dos sistemas de software é uma preocupação de todo bom projeto





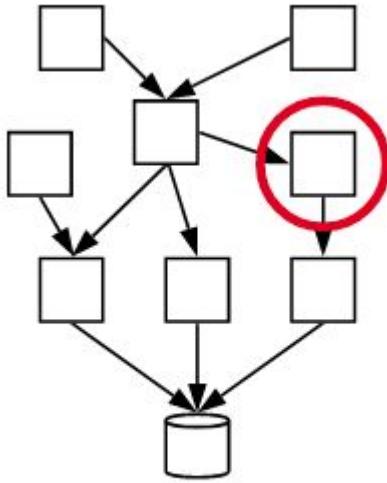
Por que testar?

1. Otimizar o tempo de desenvolvimento
2. Identificar bugs
3. Garantia de qualidade do software
4. Reduz risco de falha em operação
5. Ferramenta de “documentação”

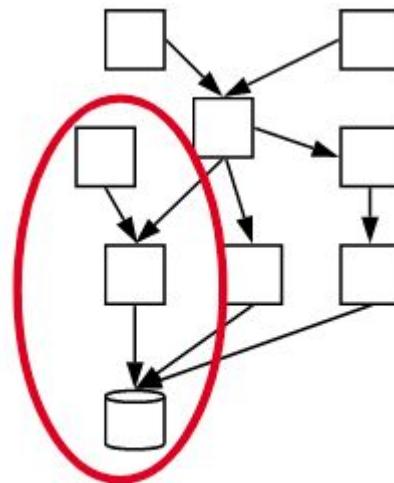


Tipos de Testes

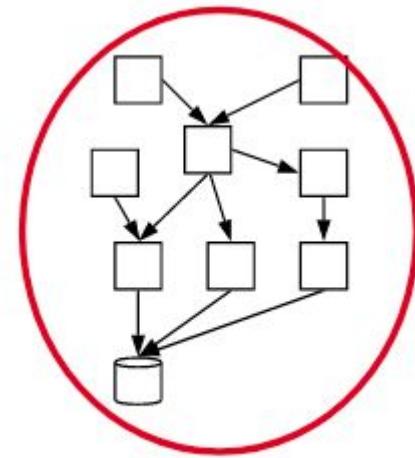
- Teste de unidade
- Teste de integração
- Teste de ponta a ponta



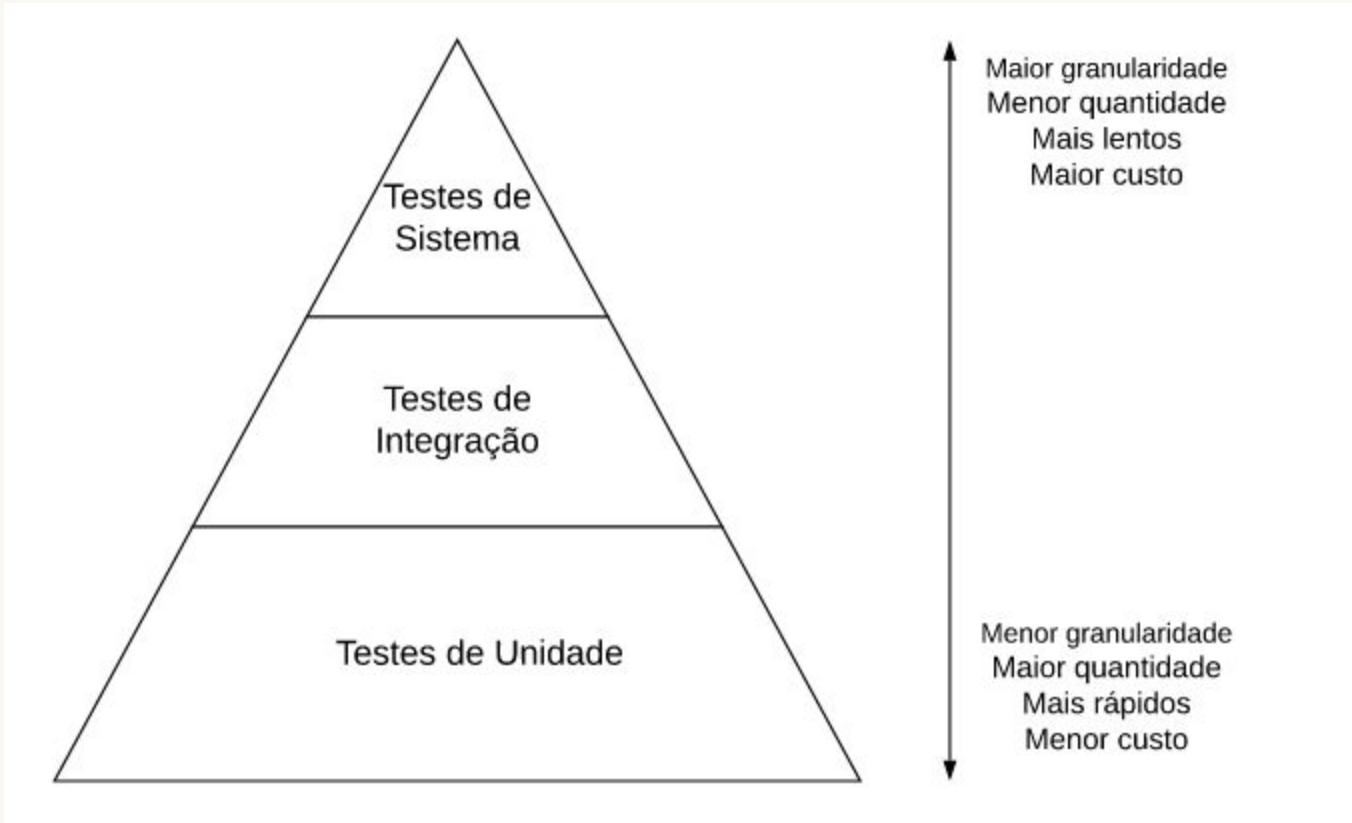
Escopo de testes de unidade

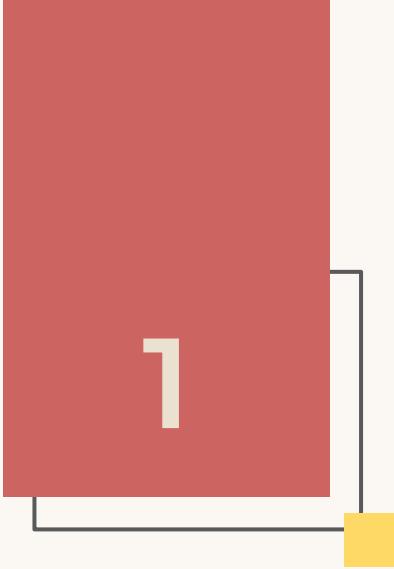


Escopo de testes de integração



Escopo de testes de sistema



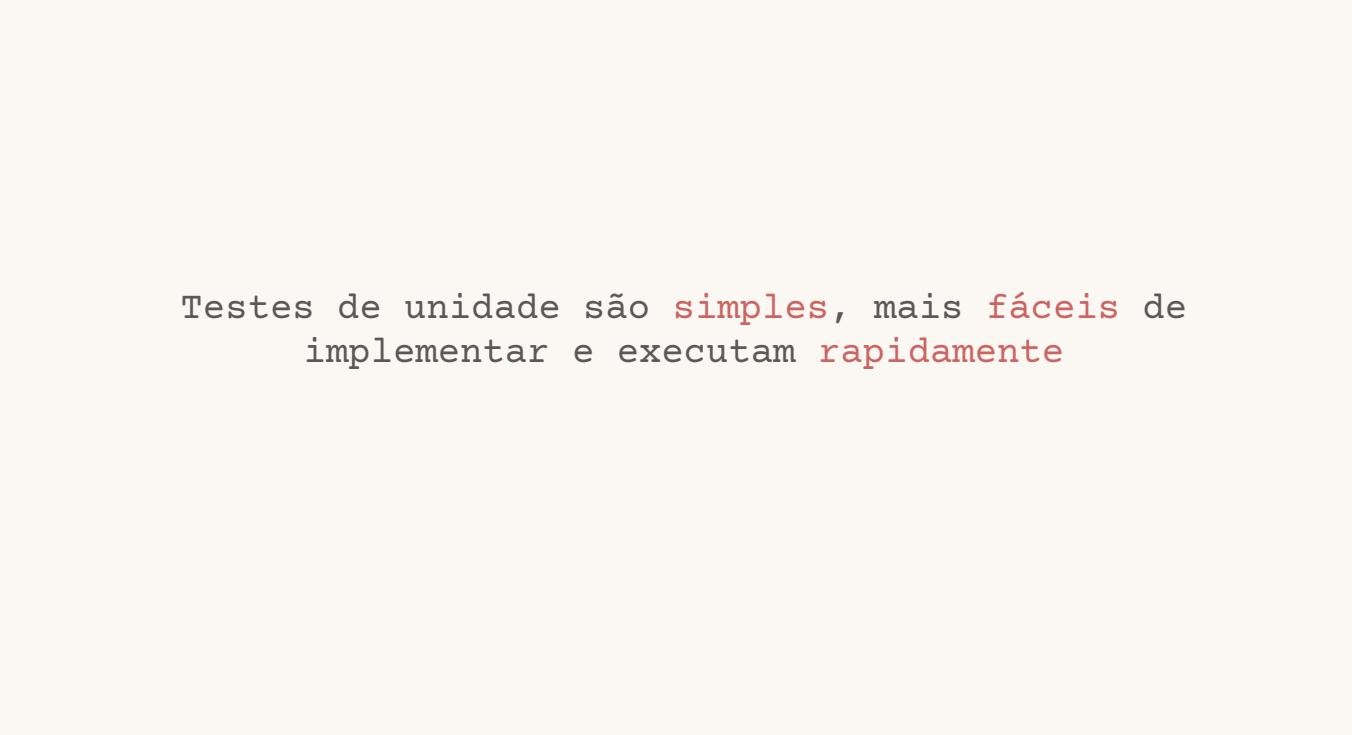


Testes unitários

“Testes de unidade são testes automatizados de
pequenas unidades de código

Um teste de unidade é um programa que chama
métodos de uma classe e **verifica** se eles retornam
os resultados esperados”

Testes de unidade são **simples**, mais **fáceis** de implementar e executam **rapidamente**



2

Testes de integração

```
8     DER_TYPE,
9     CT_MODE_TYPE,
10    PENSE_TYPE,
11    ared/ReactSymbols';
12    ValidElementType from 'shared/isValidElementType';
13
14    function typeof(object: any) {
15      if (typeof object === 'object' && object !== null) {
16        const $typeof = object.$typeof;
17        switch ($typeof) {
18          case REACT_ELEMENT_TYPE:
19            const type = object.type;
20            switch (type) {
21              case REACT_FRAGMENT_TYPE:
22              case REACT_PROFILER_TYPE:
23              case REACT_STRICT_MODE_TYPE:
24              case REACT_SUSPENSE_TYPE:
25                return type;
26            }
27            default:
28              const $typeofType = type as Type<ElementType>;
29              switch ($typeofType) {
30                case REACT_CONTEXT_TYPE:
31                case REACT_FORWARD_REF_TYPE:
32                case REACT_LAZY_TYPE:
```

“Verificam uma **funcionalidade** ou transação completa de um sistema. Logo, são testes que usam diversas **classes, de pacotes distintos**, e podem ainda testar **componentes externos**, como bancos de dados.”



Mais esforço para serem implementados e executam de forma mais lenta.

Traz uma **garantia maior** na integração de sistemas com todas as partes.

3

Testes de ponta a ponta

```
    E,
    TYPE,
    ER_TYPE,
    DER_TYPE,
    CT_MODE_TYPE,
    PENSE_TYPE,
    shared/ReactSymbols';
    ValidElementType from 'shared/isValidElementType';

function typeOf(object: any) {
  if (typeof object === 'object' && object !== null) {
    const $stypeof = object.$stypeof;
    switch ($stypeof) {
      case REACT_ELEMENT_TYPE:
        const type = object.type;
        switch (type) {
          case REACT_FRAGMENT_TYPE:
          case REACT_PROFILER_TYPE:
          case REACT_STRICT_MODE_TYPE:
          case REACT_SUSPENSE_TYPE:
            return type;
        }
      default:
        const $stypeofType = type as TYPE_REF_TYPE;
        switch ($stypeofType) {
          case REACT_CONTEXT_TYPE:
          case REACT_FORWARD_REF_TYPE:
          case REACT_LAZY_TYPE:
```

“Os testes de sistema, também chamados de **testes de interface com o usuário**. Eles **simulam**, da forma mais fiel possível, **uma sessão de uso do sistema por um usuário real.**”

Como pensar ao escrever testes

- Pense de forma simples o que cada coisa deve fazer
- Anote os testes
- Execute

Como pensar ao escrever testes



Na prática

1. Testes Unitários:

- Visite o repositório:
https://github.com/cypress-io/cypress-example-recipes/tree/master/examples/unit-testing_application-code
- Faça pull no mesmo.
- Estude o código e identifique os arquivos de funções matemáticas, fizzbuzz e de testes do Cypress.
- Modifique a função Fizzbuzz e sua validação, utilize “engenhariasoftware”, “engenharia” e “software” como os possíveis valores a serem devolvidos na função.

2. Testes End-to-End:

- Visite o repositório:
<https://github.com/bahmutov/react-server-example>
- Faça pull no mesmo.
- Rode o servidor localmente
- Visite a página:
<https://glebbahmutov.com/blog/ssr-e2e/>
- Siga as instruções e execute os testes listados para o servidor de React.

Para saber mais

Bad smell em testes

Leitura:

<https://engsoftmoderna.info/cap8.html>



Obrigado!



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“This is a quote. Words full of wisdom that someone important said and can make the reader get inspired”

—Someone Famous

The Slide Title Goes Here!

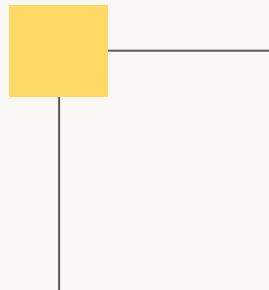


Do you know what helps you make your point clear?

Lists like this one:

- They're **simple**
- You can **organize** your ideas clearly
- You'll **never forget** to buy milk!

And the most important thing: the audience won't miss the point of your presentation



Maybe You Need to Divide the Contents



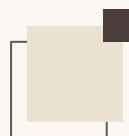
Mercury

Mercury is the closest planet to the Sun, but it's not the hottest in the Solar System



Venus

Venus has a beautiful name, is the second planet from the Sun and is terribly hot



You Could Use Three Columns



Mars

Despite being red, Mars is actually a cold place



Jupiter

It's a gas giant and the biggest planet in the Solar System



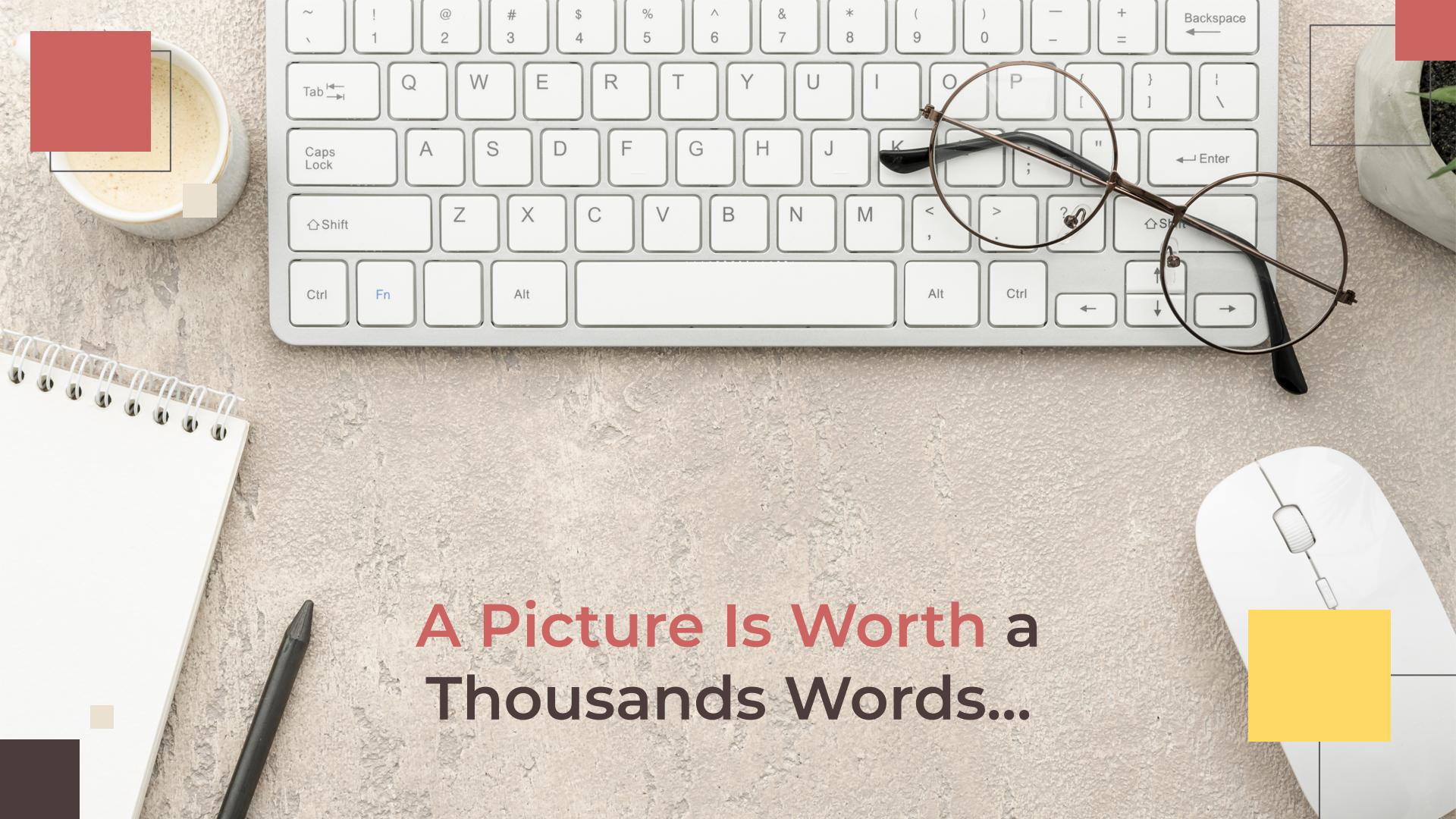
Venus

It has a beautiful name and is the second planet from the Sun

A Picture Always Reinforces the Concept

Images reveal large amounts of data, so remember: use an image instead of long texts





A Picture Is Worth a
Thousands Words...

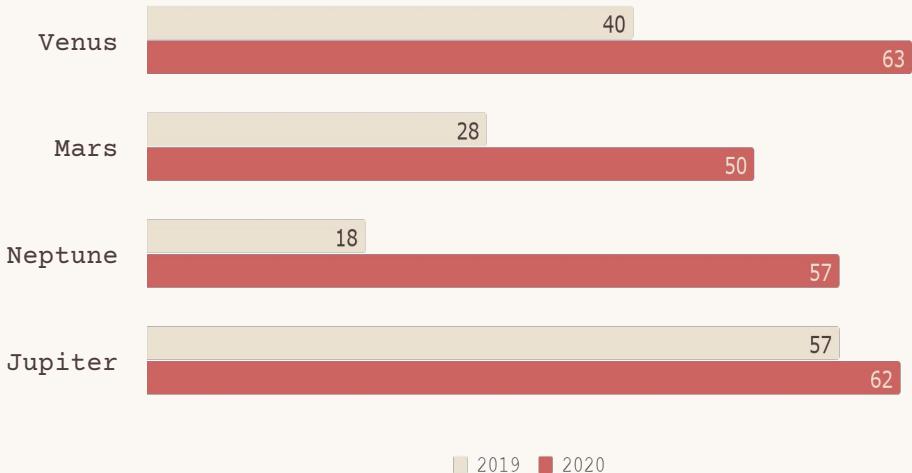
Awesome Words



Here's a Graph

Tendency

Jupiter is a gas giant and the biggest planet in the Solar System. It's named after the Roman god of the sky and lightning.



To modify this graph, click on it, follow the link, change the data and replace it

Reviewing Concept Is a Good Idea

Mercury

It's the closest planet to the Sun, but not the hottest

Venus

It's named after the Roman goddess of love and beauty

Saturn

It's composed of hydrogen and helium.
It has rings

Mars

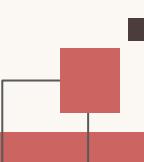
Despite being red, Mars is actually a cold place

Neptune

Neptune is the farthest planet from the Sun

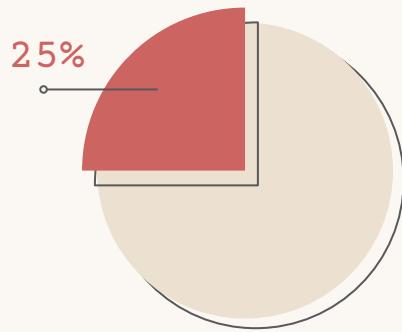
Jupiter

It's the biggest planet in the Solar System



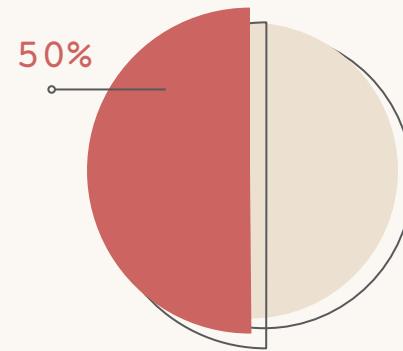
Look Inside

Mercury



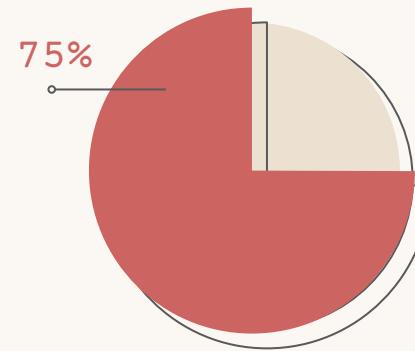
Mercury is the closest planet to the Sun

Venus



Venus is the second planet to the Sun

Uranus



Uranus is the seventh planet from the Sun

Infographics Always Help

Mercury

Mercury is the closest planet to the Sun



Venus

Venus is the second planet to the Sun



Neptune

Neptune is the farthest planet from the Sun



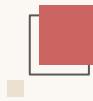
Uranus

Uranus is the seventh planet from the Sun



Tables Are Useful

	Issue 1	Issue 2	Issue 3
Venus	12	32	19
Mercury	67	31	21
Mars	67	28	22



Current Visitors

- **Venus**

Venus is the second planet from the Sun

- **Neptune**

Neptune is the farthest planet from the Sun



Our Timeline



Venus

Venus is a planet with a beautiful name



Mercury

Mercury is the closest planet to the Sun



Mars

Despite being red, Mars is a cold place



Jupiter

It's the biggest planet of them all



Neptune

It's the farthest planet from the Sun

2,000,000

Great numbers fall in love
and their explanations impress

333,000.00

Earths is the Sun's mass

24h 37m 23s

Is Jupiter's rotation period

386,000 km

Is the distance between Earth and the Moon

Our Team



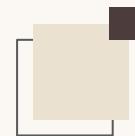
Simon Heimat

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the screen with your own



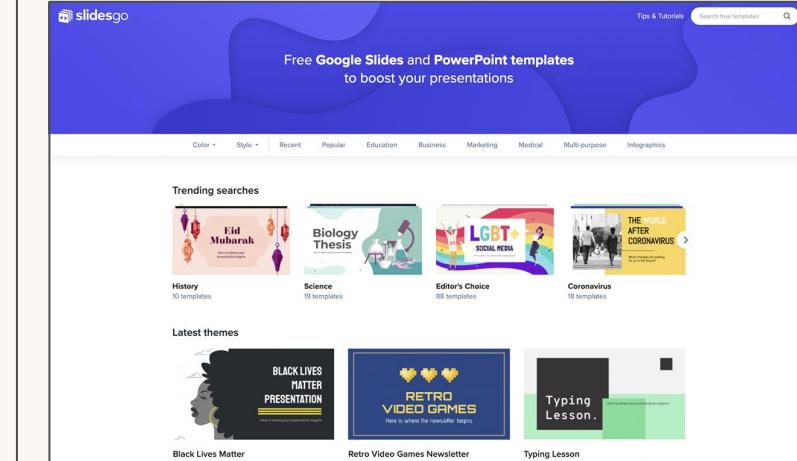
Chris Heimat

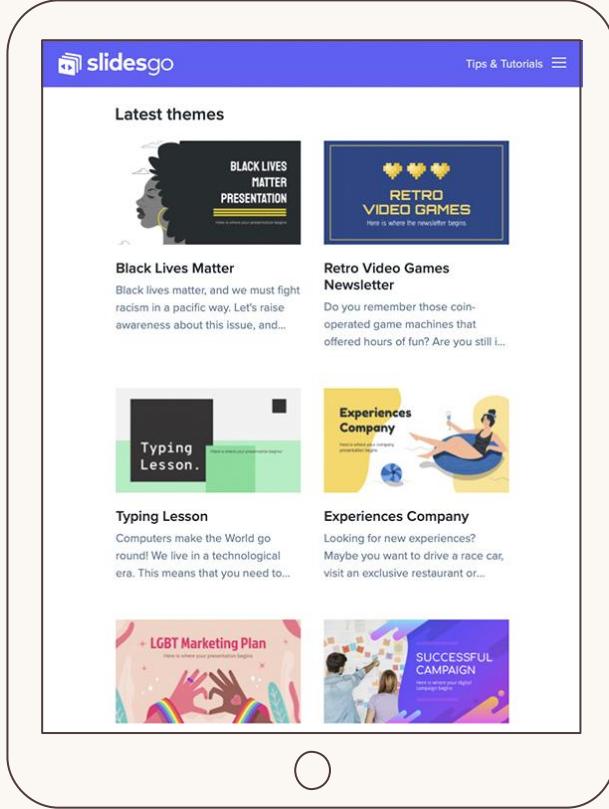
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Desktop Software

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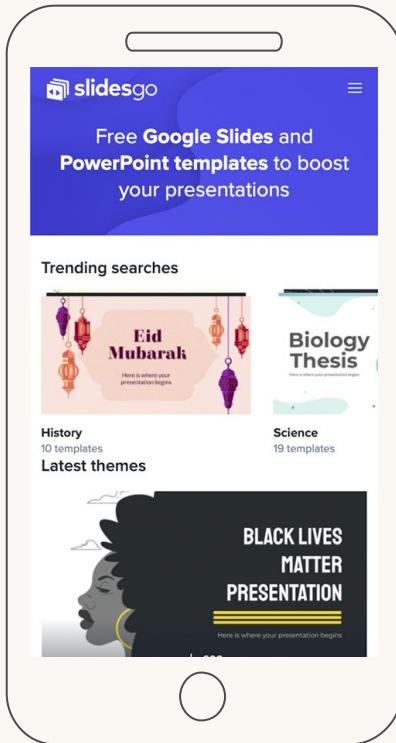




Tablet App

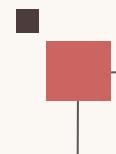
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Mobile Web



You can replace the image on the screen with your own work

Latest Works

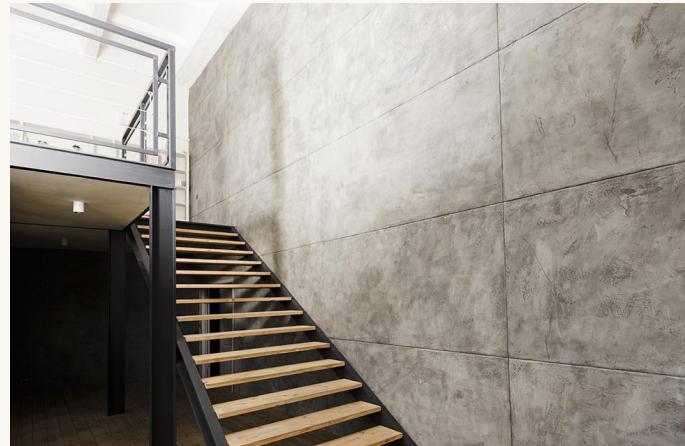




Our Best Works

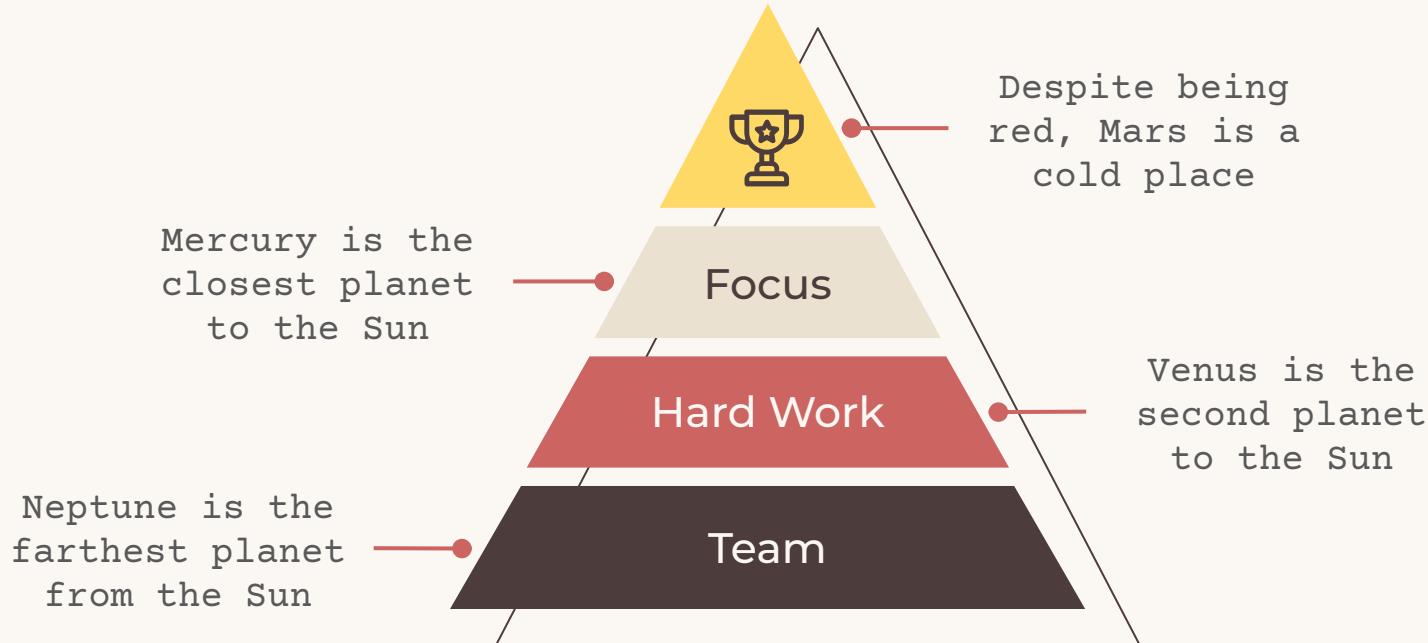


Mercury is the smallest planet in the Solar System



Venus is named after the Roman goddess of love and beauty

Our Pillars



Philosophy

- Mercury is the closest planet to the Sun and the smallest one in the Solar System, but it's actually not the hottest
- Venus is named after the Roman goddess of love and beauty. It's the second planet from the Sun and it is also terribly hot



Timeline Looks Fine



Our Goals

You could enter a subtitle if you need it

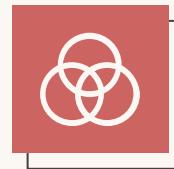
1. This is an item in your list
2. This is an item in your list
3. This is an item in your list
4. This is an item in your list

Our Services



Jupiter

It's the biggest planet in the Solar System



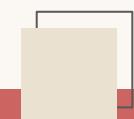
Mars

Despite being red, Mars is actually a cold place



Neptune

Neptune is the farthest planet from the Sun



Need a Conclusion?

Enter a subtitle here if you need it



Thanks!

Do you have any questions?

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Alternative Resources

Photos

- Woman on the phone at home while working
 - Side view of woman at desk working from home with copy space
 - Woman working from home
 - Top view desk concept with laptop
 - Plants with empty frame and sofa
 - Table with plants next to frame
 - Decorative flower stand with frames
 - Desk office
- 



Resources

Photos

- Top view desk with office supplies
- Desk office I
- Desk office II
- Desk office III
- Bright cosy modern kitchen with island
- Close-up modern minimalist desk
- Modern bright minimalist bedroom
- Modern industrial wooden staircase
- Minimalist composition with modern furniture
- Student listening to online courses e-learning concept
- Stylish modern kitchen area with island
- Nordic style office with desk and chair
- Nordic style bookshelf with plant

Vectors

- Responsive web design flat graphics

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Pana



Amico



Bro



Rafiki



Cuate

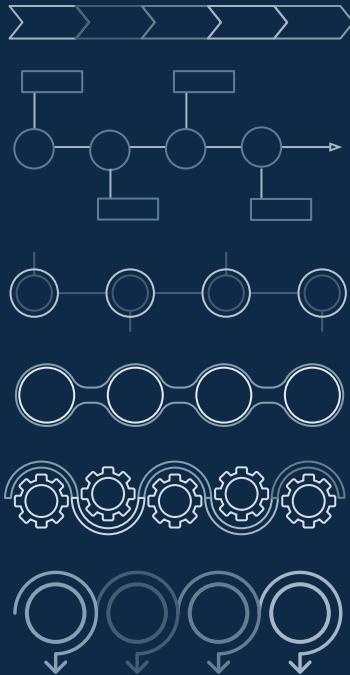
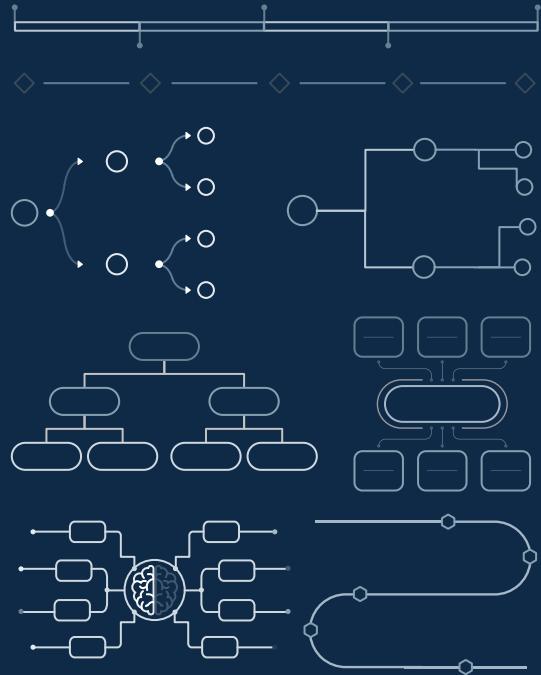
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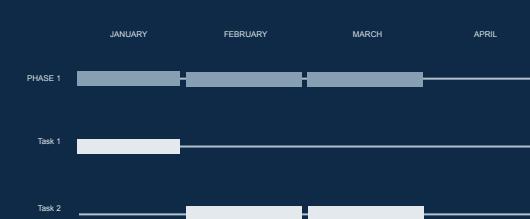
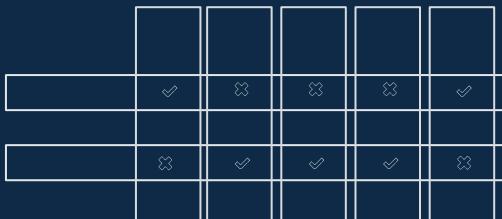
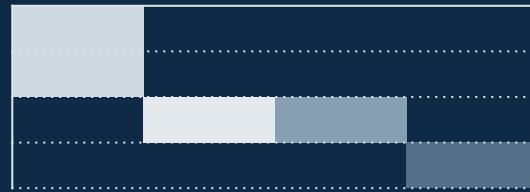
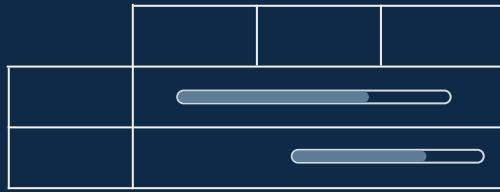
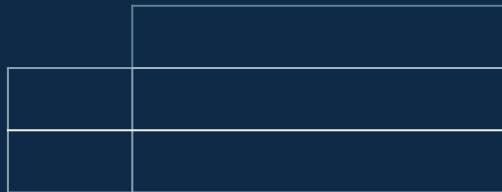
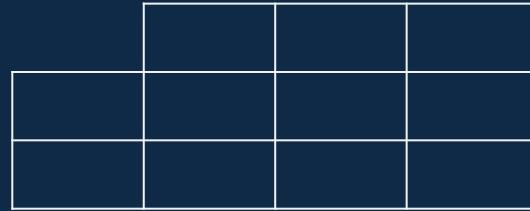
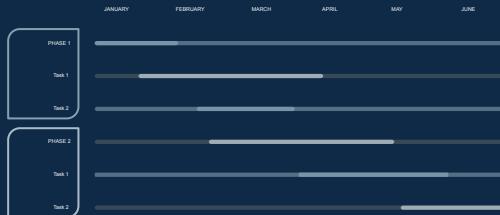
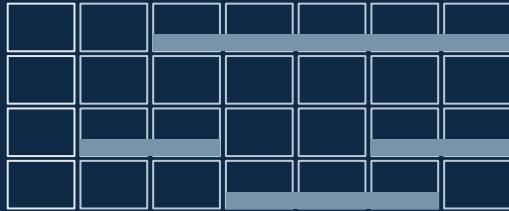
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Group the resource again when you're done. You can also look for more infographics on Slidesgo.

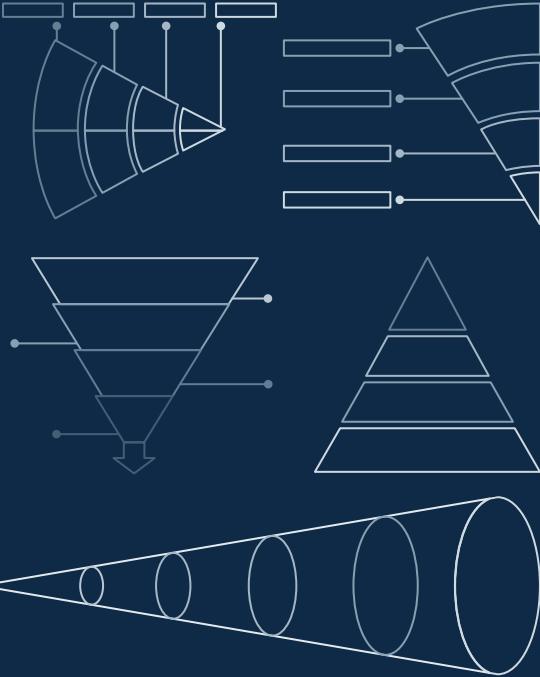
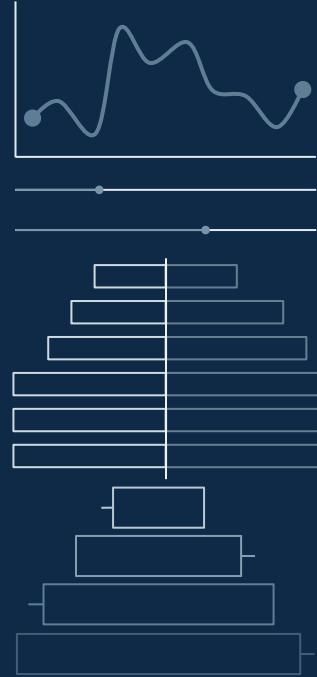
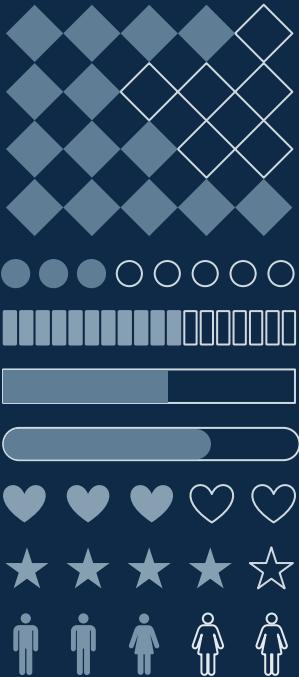
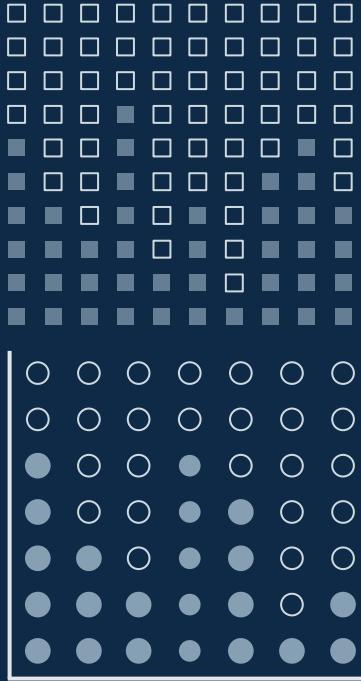












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