PUC Minas

Covering

Alunos:

- Arthur Amaral
- Guilherme Antônio

Orientadores:

- José Laerte Xavier
- Marco Rodrigo Costa

Categorização

CBsoft

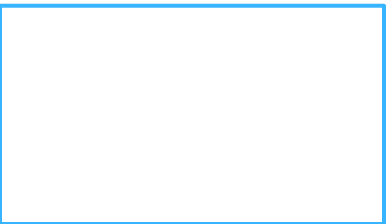
Área de Teste de Software e Engenharia de Software

Desenvolvedores

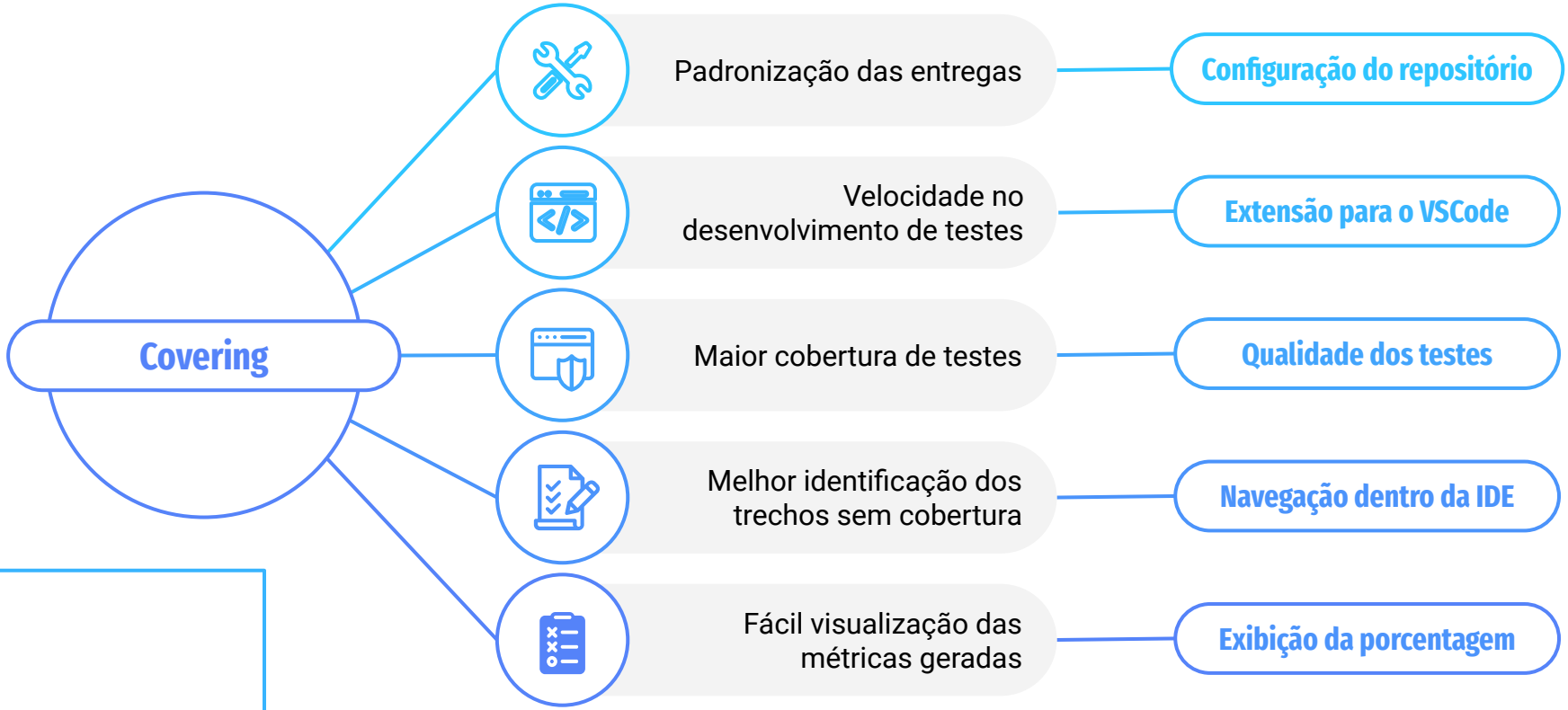
Benefícios aos desenvolvedores de software durante o processo de desenvolvimento e software

Características

Qualidade da construção de testes medindo a cobertura do projeto e exibindo em tempo real para o desenvolvedor no próprio ambiente de desenvolvimento



Objetivos


Covering
Padronização das entregas
Configuração do repositório
Velocidade no desenvolvimento de testes
Extensão para o VSCode
Maior cobertura de testes
Qualidade dos testes
Melhor identificação dos trechos sem cobertura
Navegação dentro da IDE
Fácil visualização das métricas geradas
Exibição da porcentagem

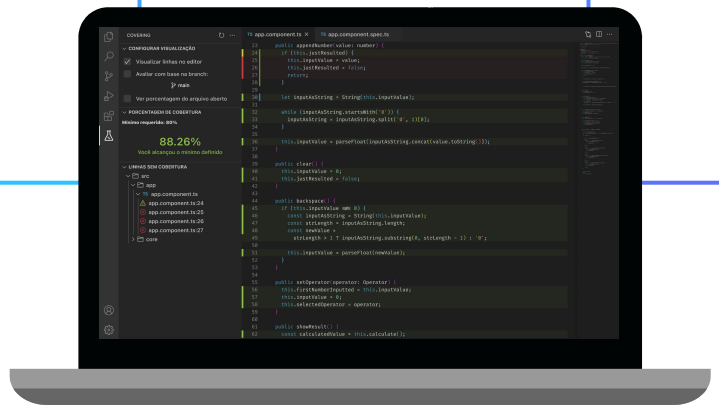
Escopo

Extensão pra o VSCode

Leitura de arquivo de teste

Destaque das linhas

Vizualização de cobertura



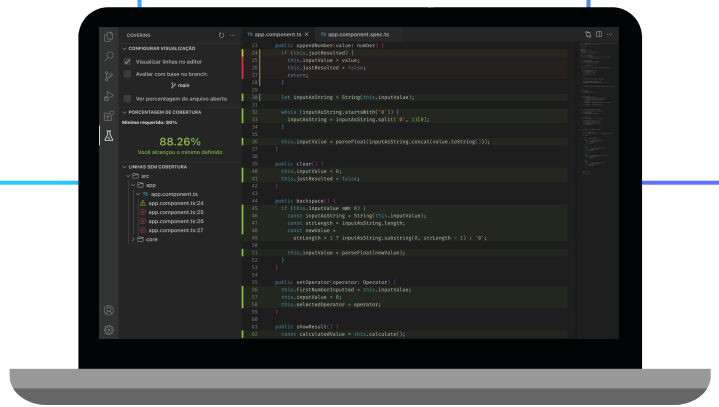
Escopo

Comparação de conbertura entre *branches*

Bloqueio de *push*

Configuração da extensão

Suporte oficial às linguagens Javascript e Typescript

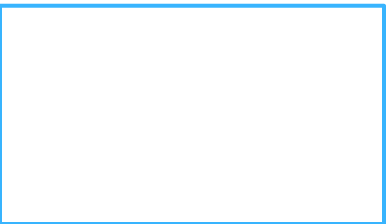


Fora do Escopo

Gerar o arquivo de relatório de cobertura

Propor ações para incrementar cobertura de teste

Funcionamento fora do VSCode



Principais Necessidades e Funcionalidades

01

Visualização dos dados de cobertura atual

02

Visualização dos dados de cobertura com base na diferença entre versões de código

03

Definição de padrões de cobertura de teste para o projeto

04

Exibição de linhas de código sem cobertura

05

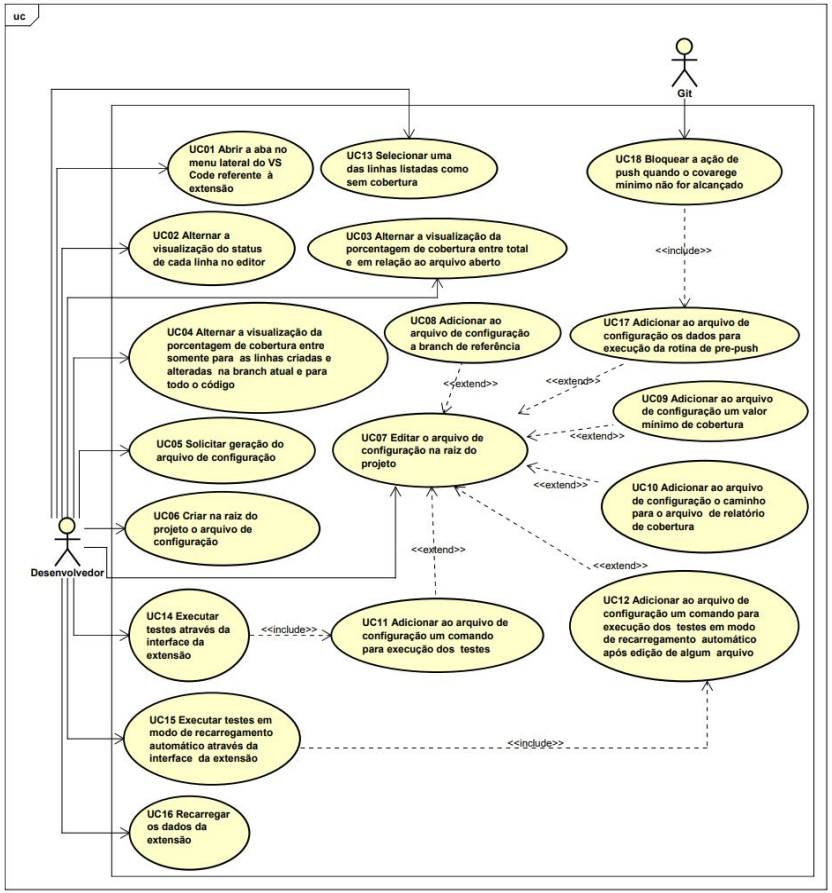
Controle da execução dos testes através de interface gráfica que independa da biblioteca utilizada

Descrição dos Atores

Utilizador da extensão na IDE

Íntegra com a extensão, para que as funcionalidades sejam implementadas

Diagrama de Caso de Uso



Principais Casos de Uso

UC01 Abrir a aba no menu lateral do VSCode

UC02 Alternar a visualização do *status* de cada linha no editor

UC04 Visualização da cobertura para as linhas criadas na branch atual

UC06 Criar na raiz do projeto o arquivo de configuração

UC08 Adicionar ao arquivo de configuração a *branch* de referência

UC09 Adicionar ao arquivo de configuração um valor mínimo de cobertura

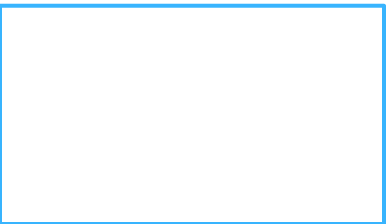


Diagrama de Componentes

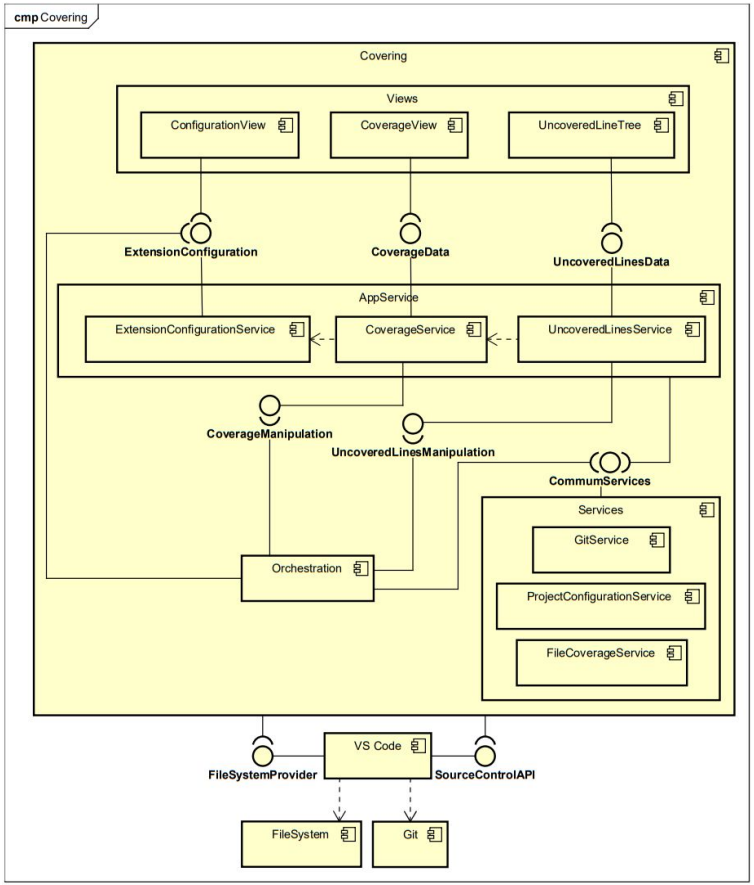


Diagrama de Componentes

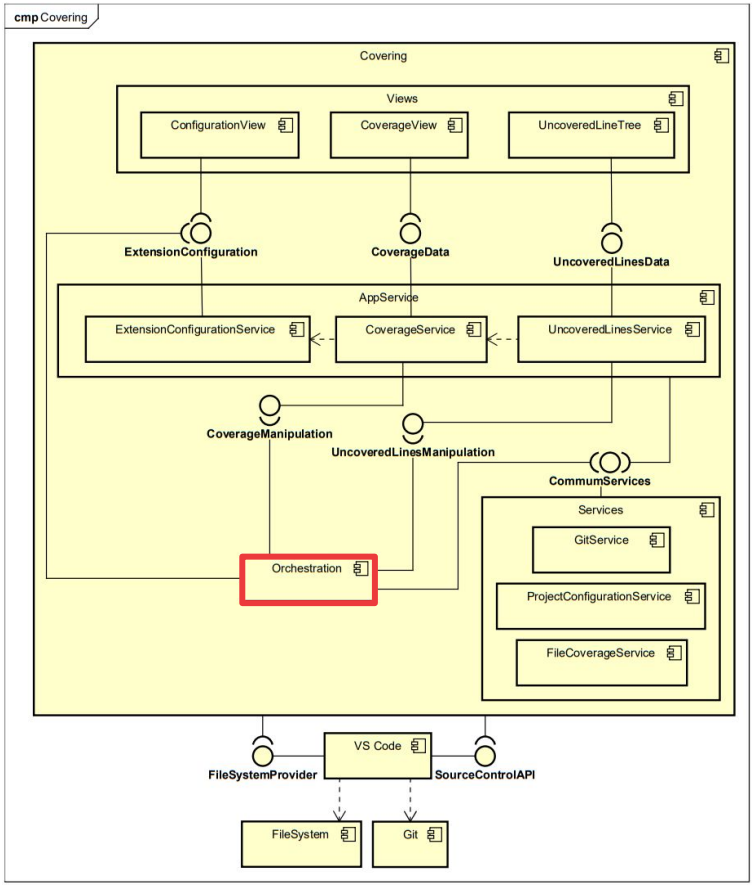


Diagrama de Componentes

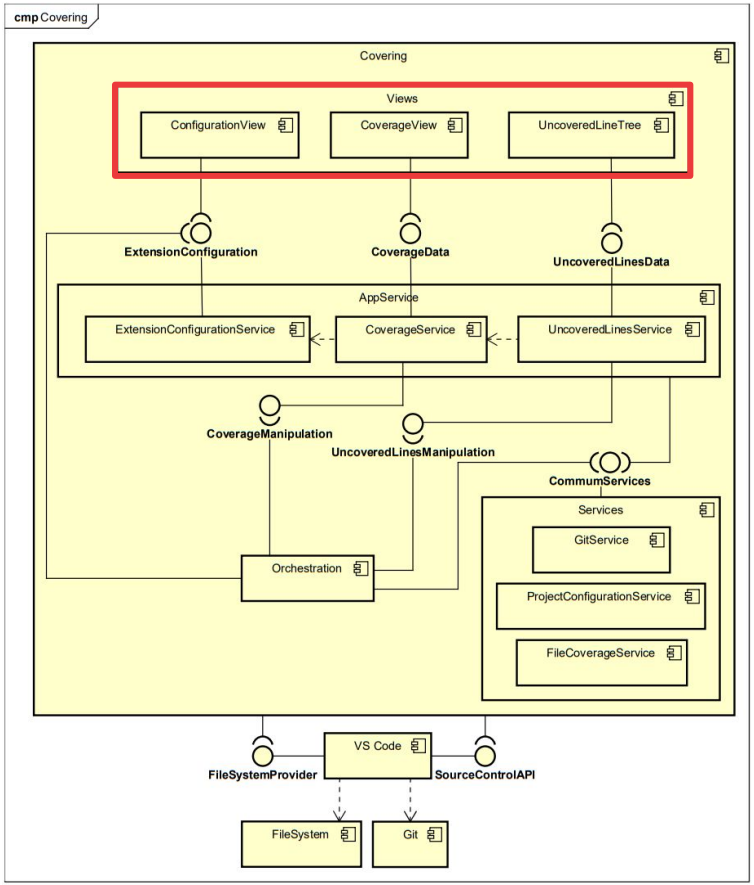


Diagrama de Componentes

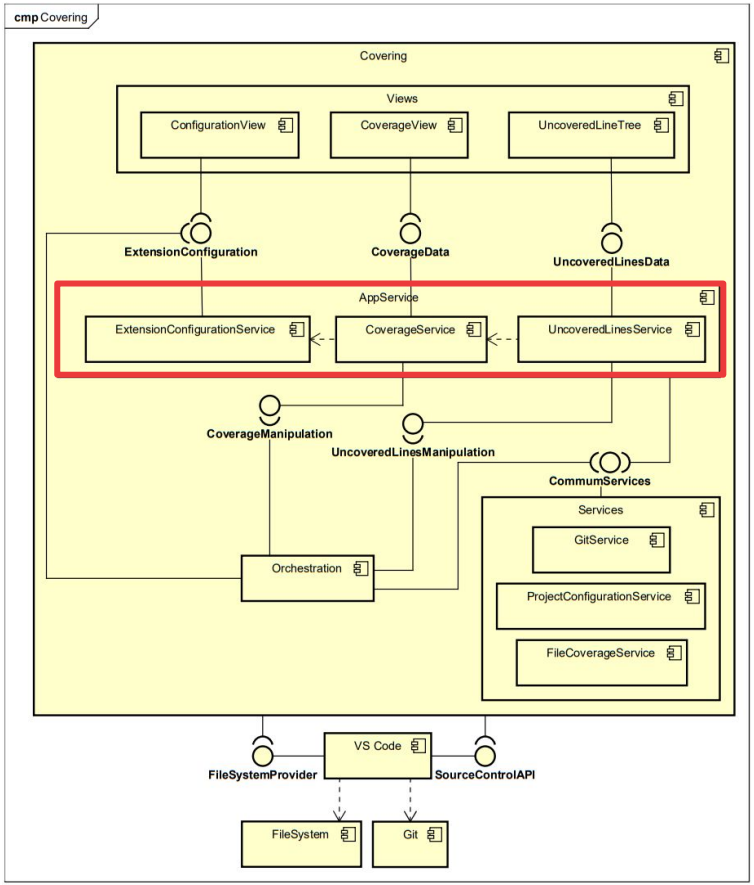


Diagrama de Componentes

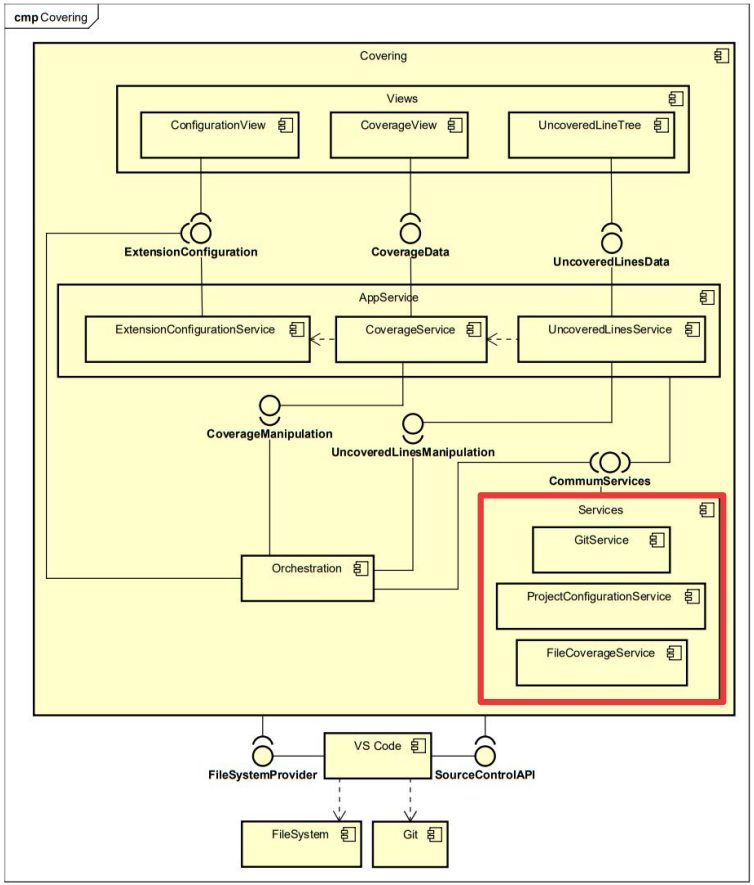
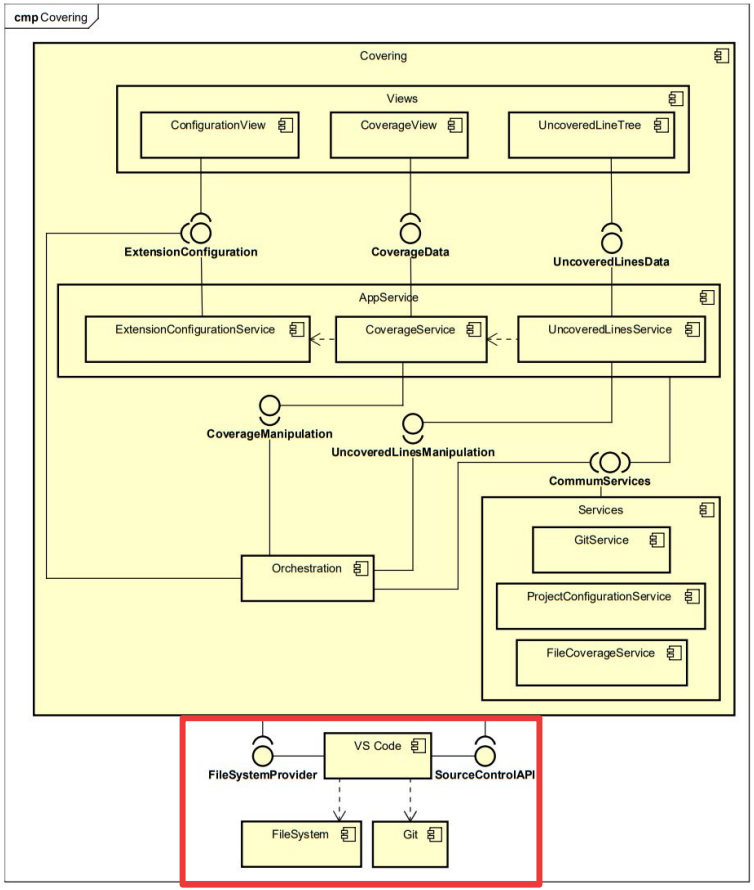


Diagrama de Componentes



Principais Componentes

Orchestration — Responsável por gerenciar as *views* e os serviços.

Views — Responsável pelos componentes visuais relacionados à exibição dos dados na IDE.

AppService — Responsáveis pelos serviços que geram os dados da aplicação.

Service — Responsáveis por utilizar interfaces externas para gerar e emitir os dados base.

Externos — Aplicações que consumidas por meio de interface com o VSCode.

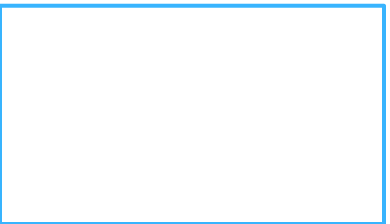
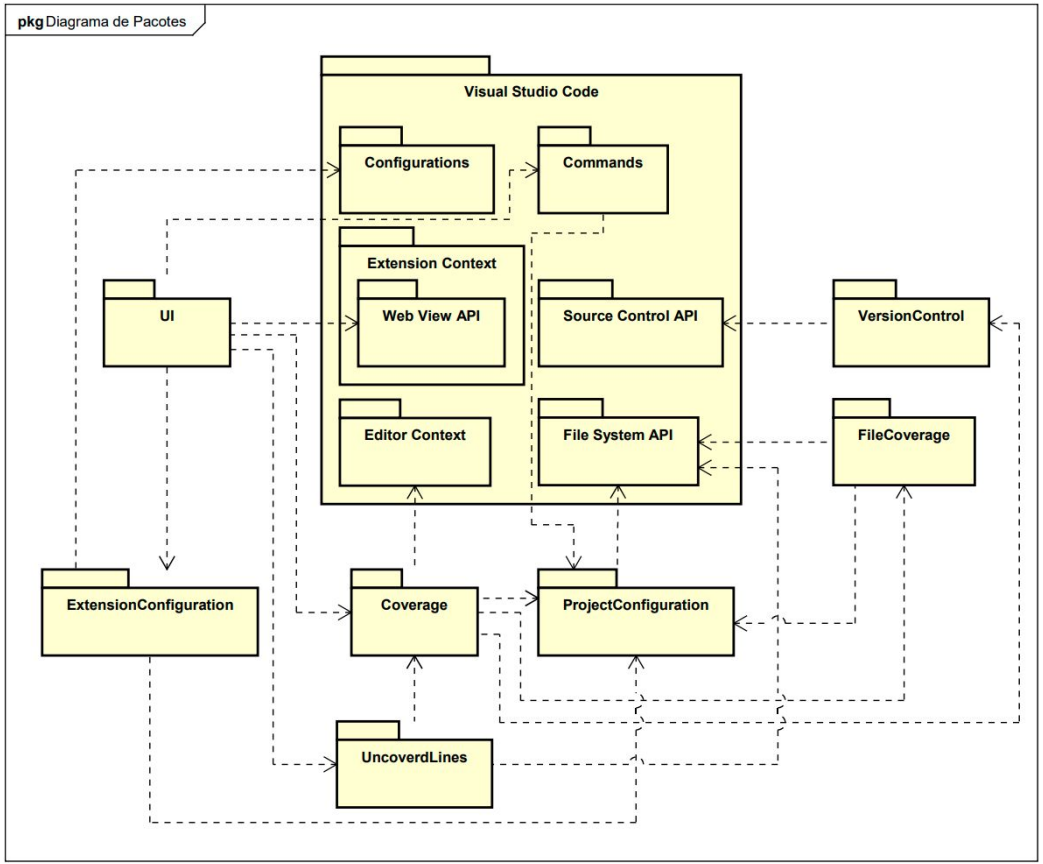
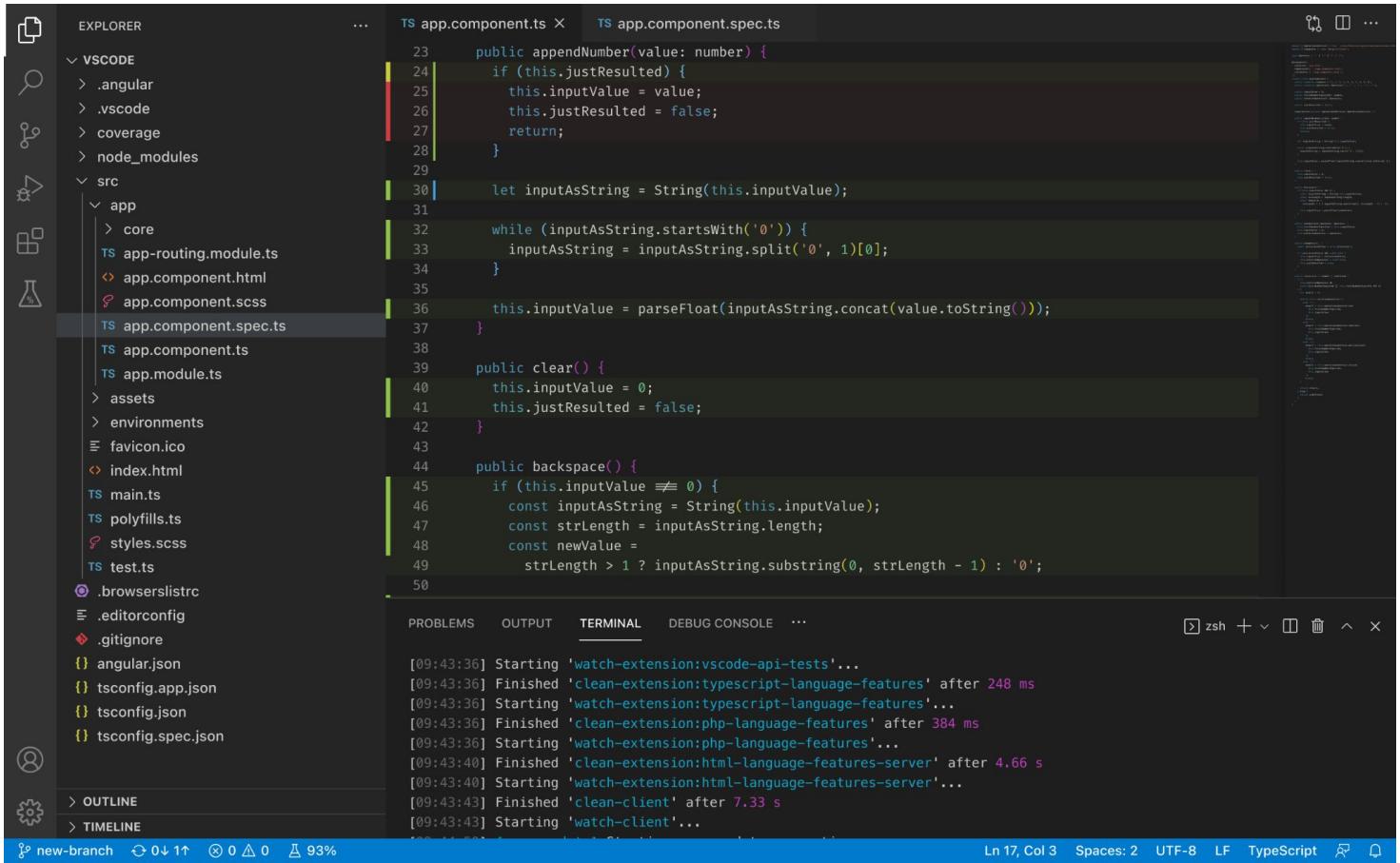


Diagrama de Pacotes



Projeto de Interfaces com o Usuário



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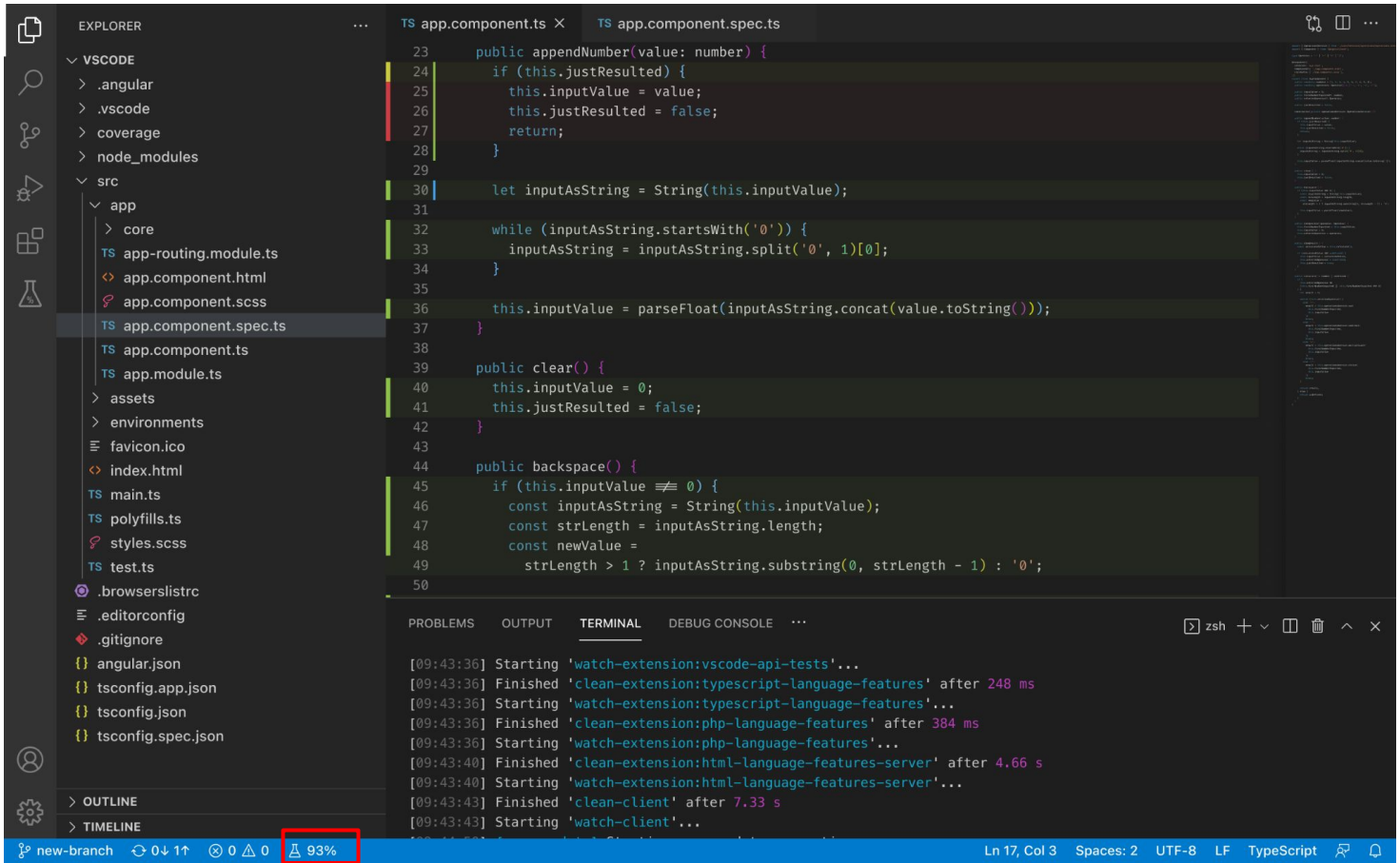
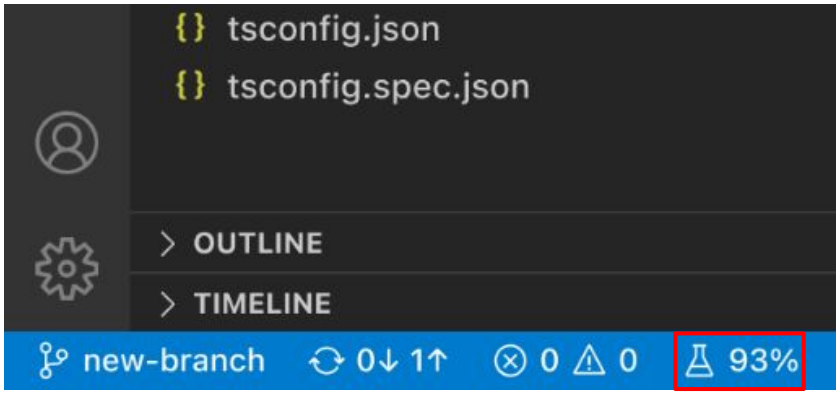


Projeto de Interfaces com o Usuário



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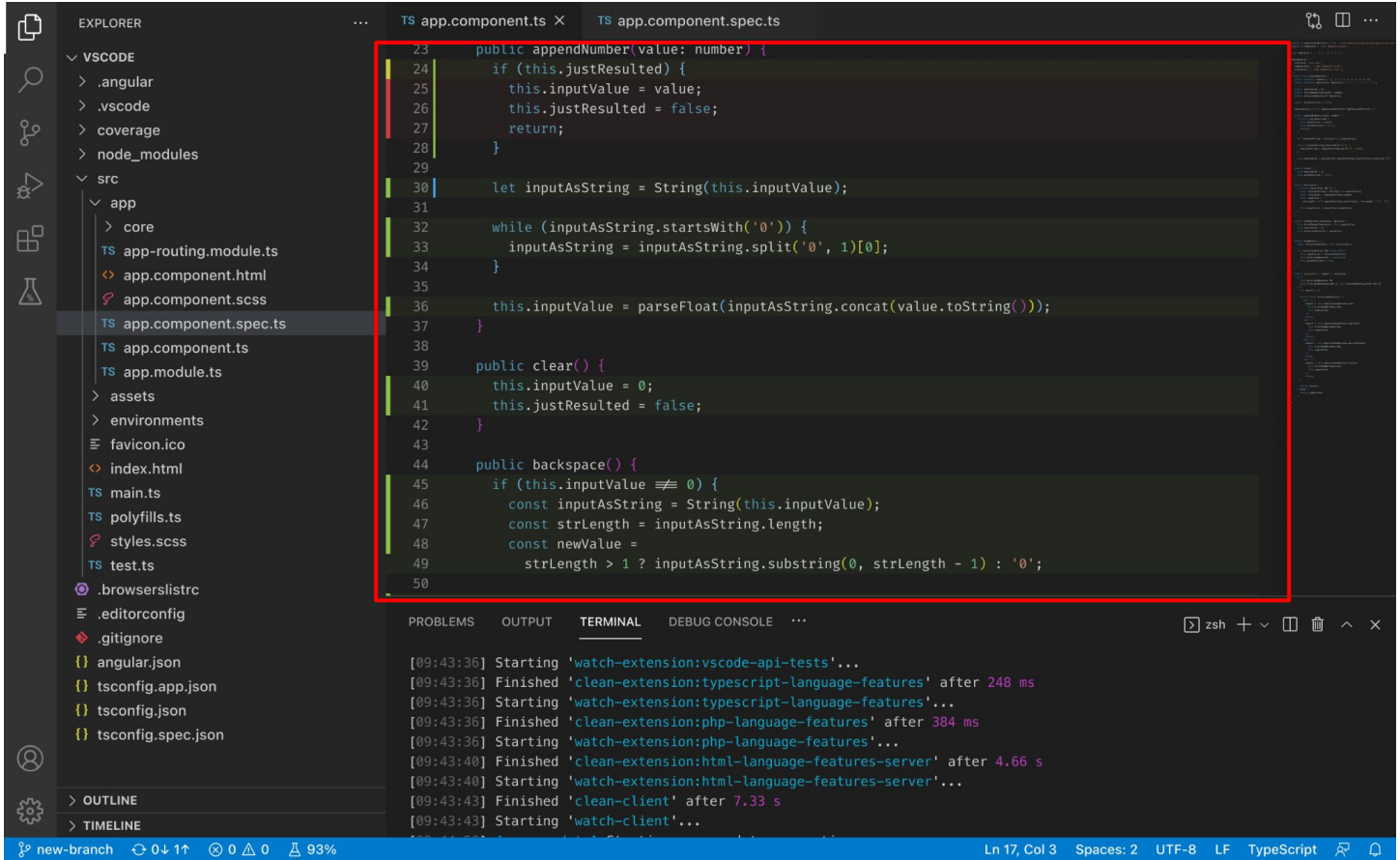

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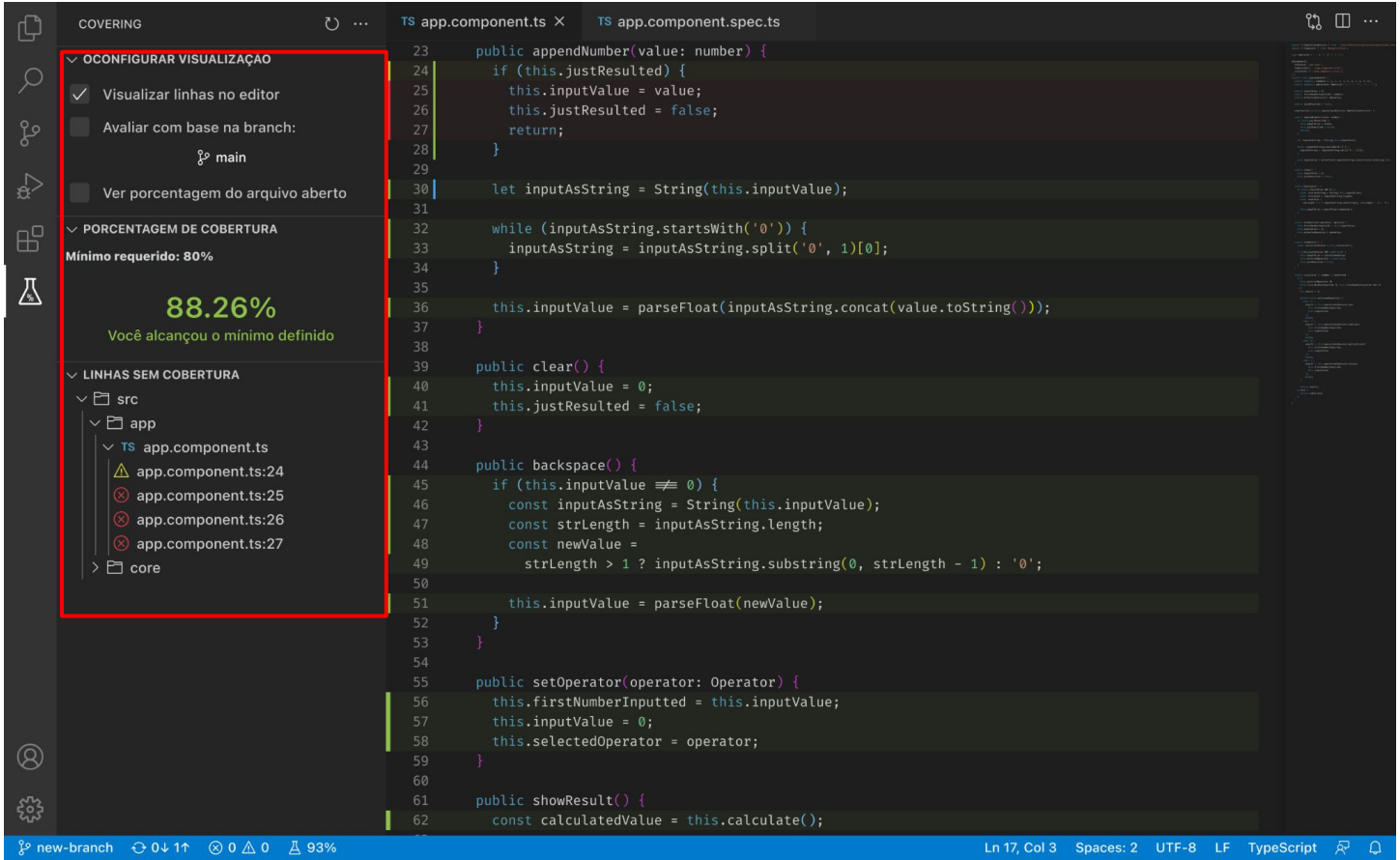

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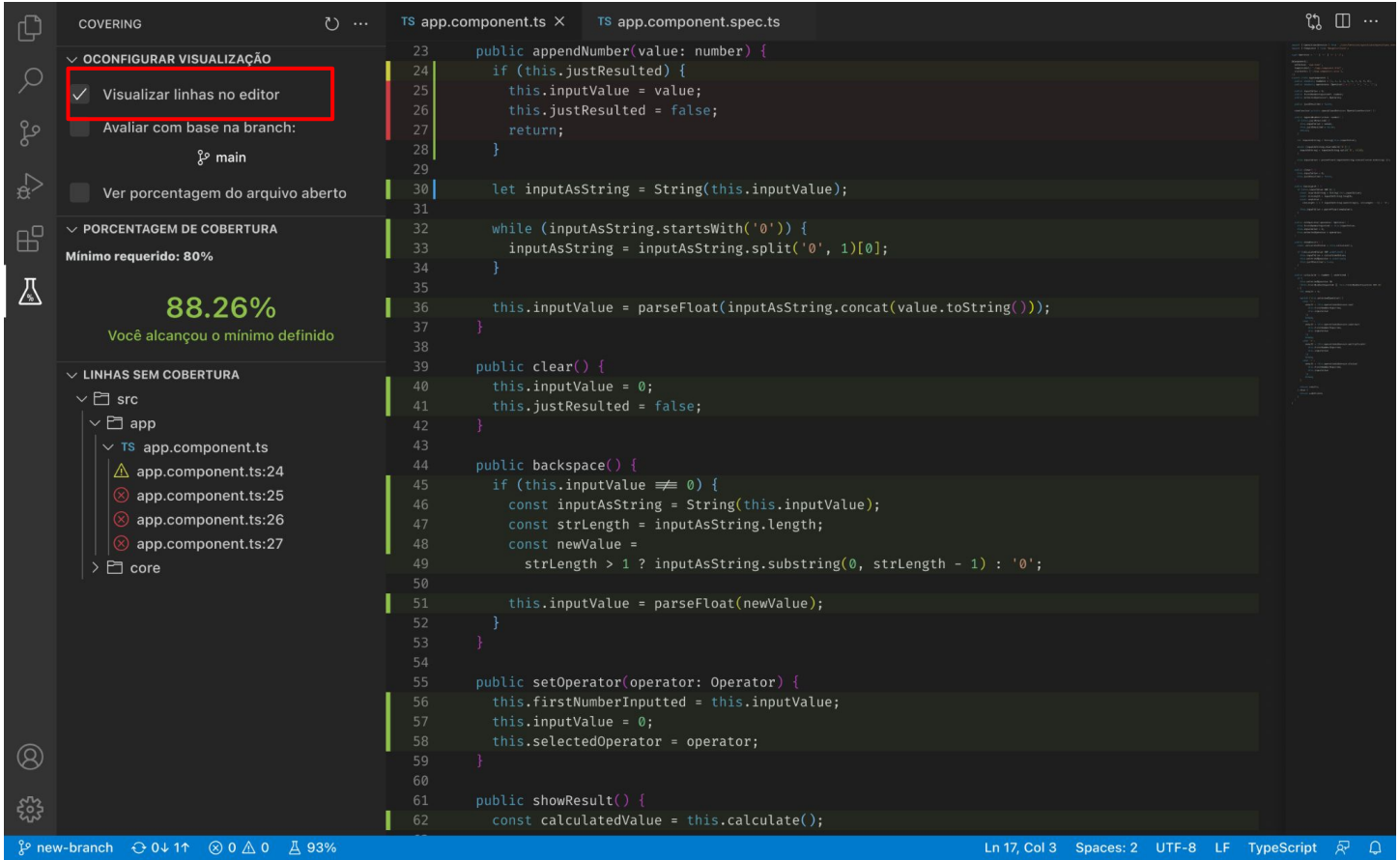

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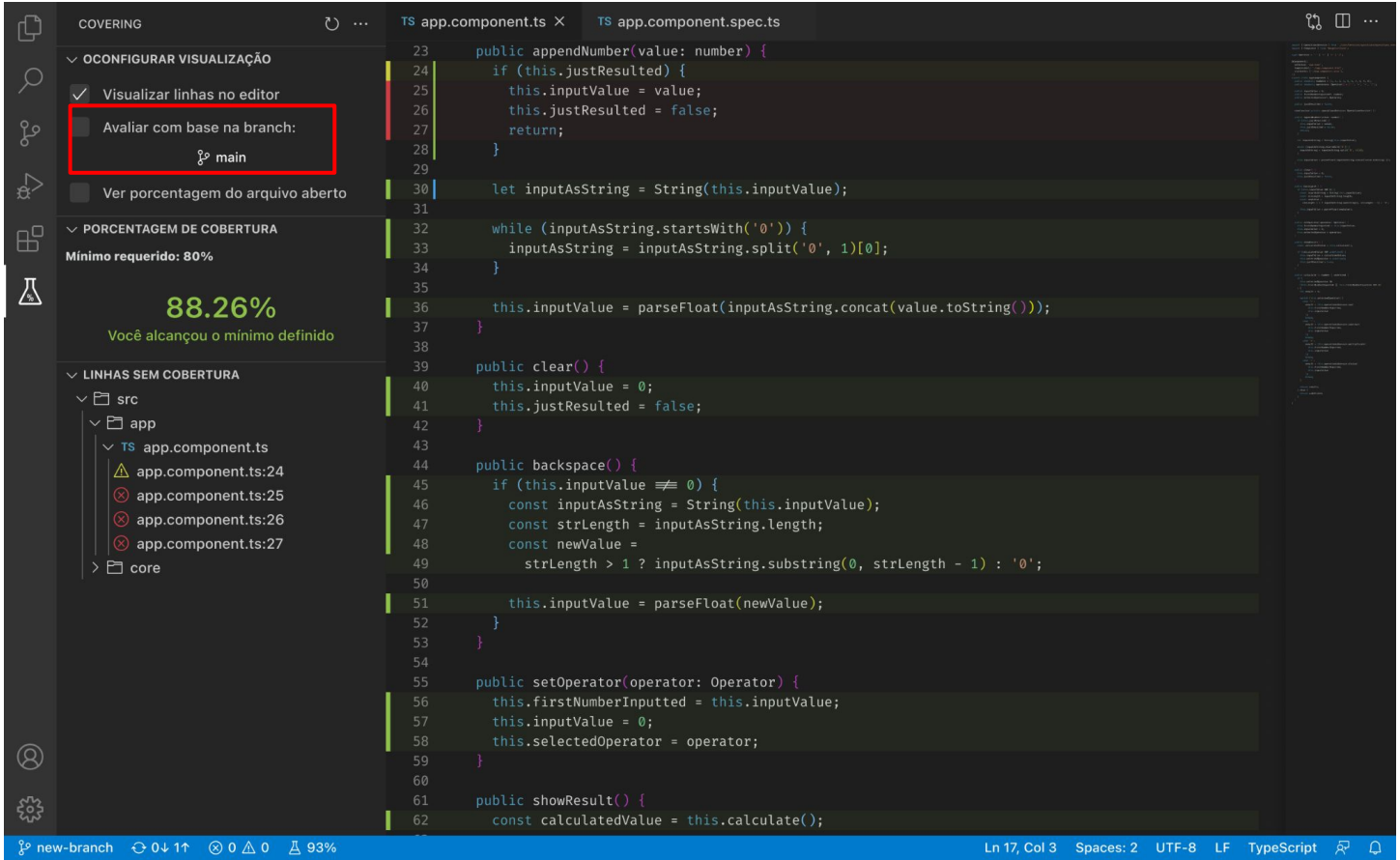

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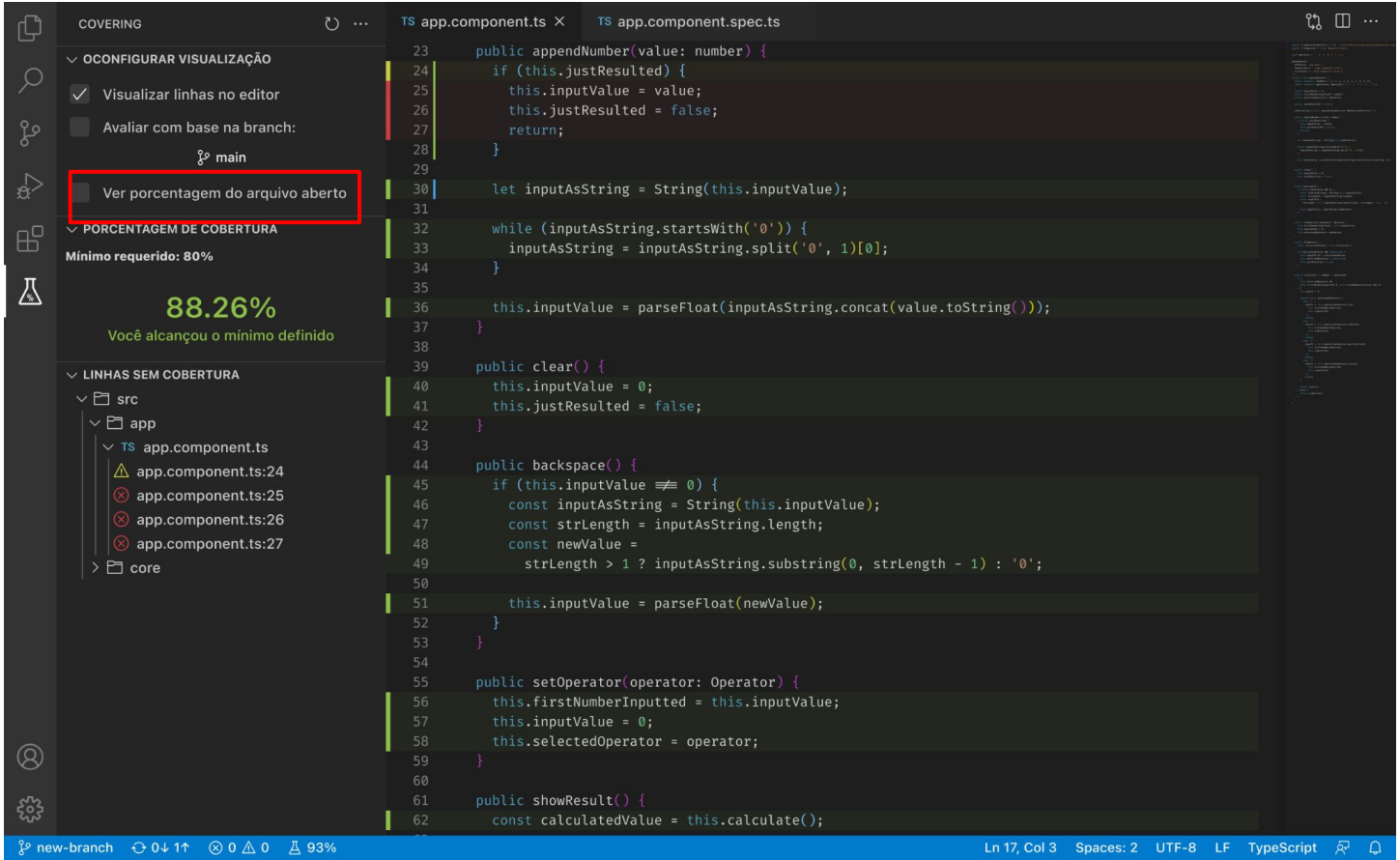

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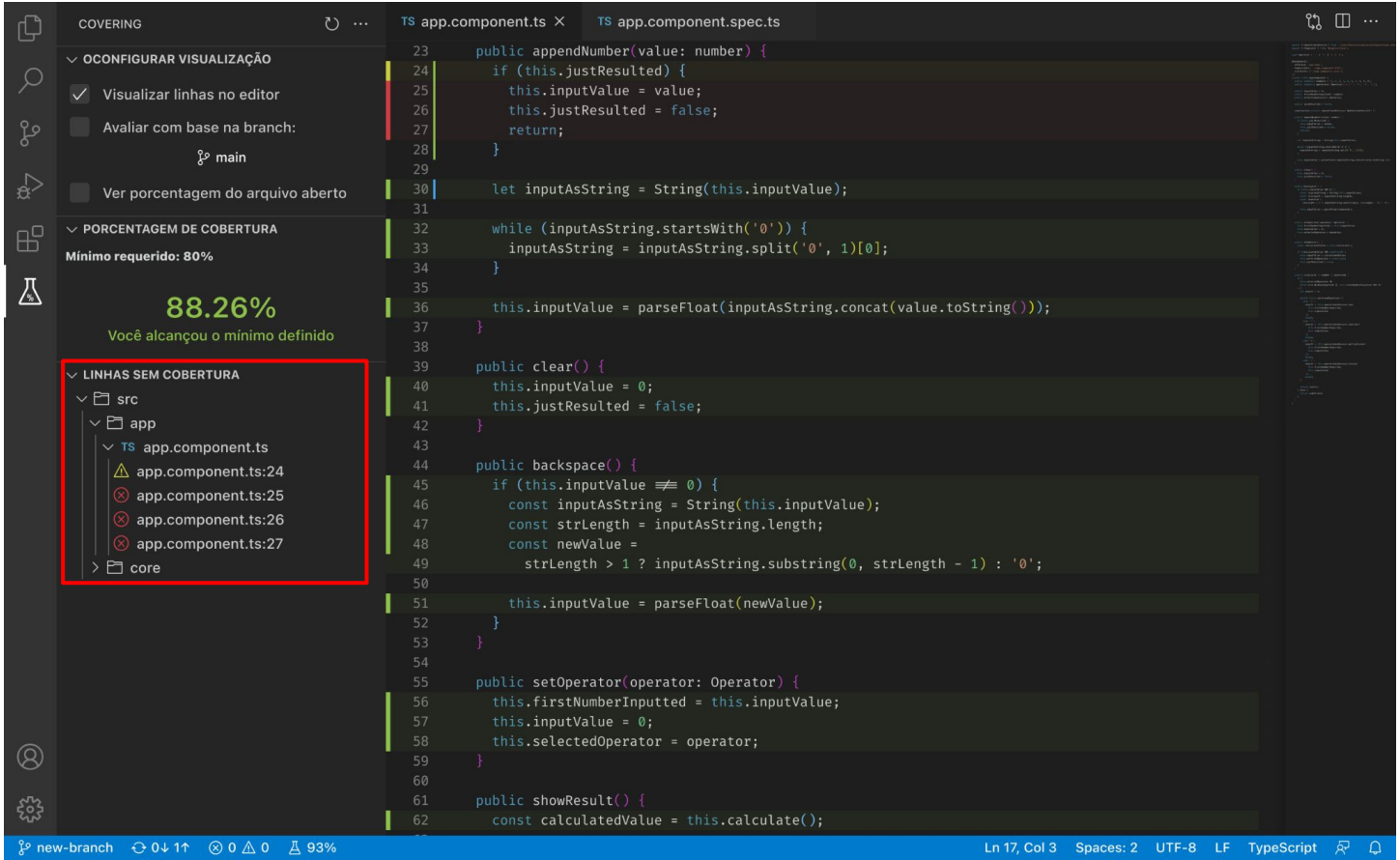

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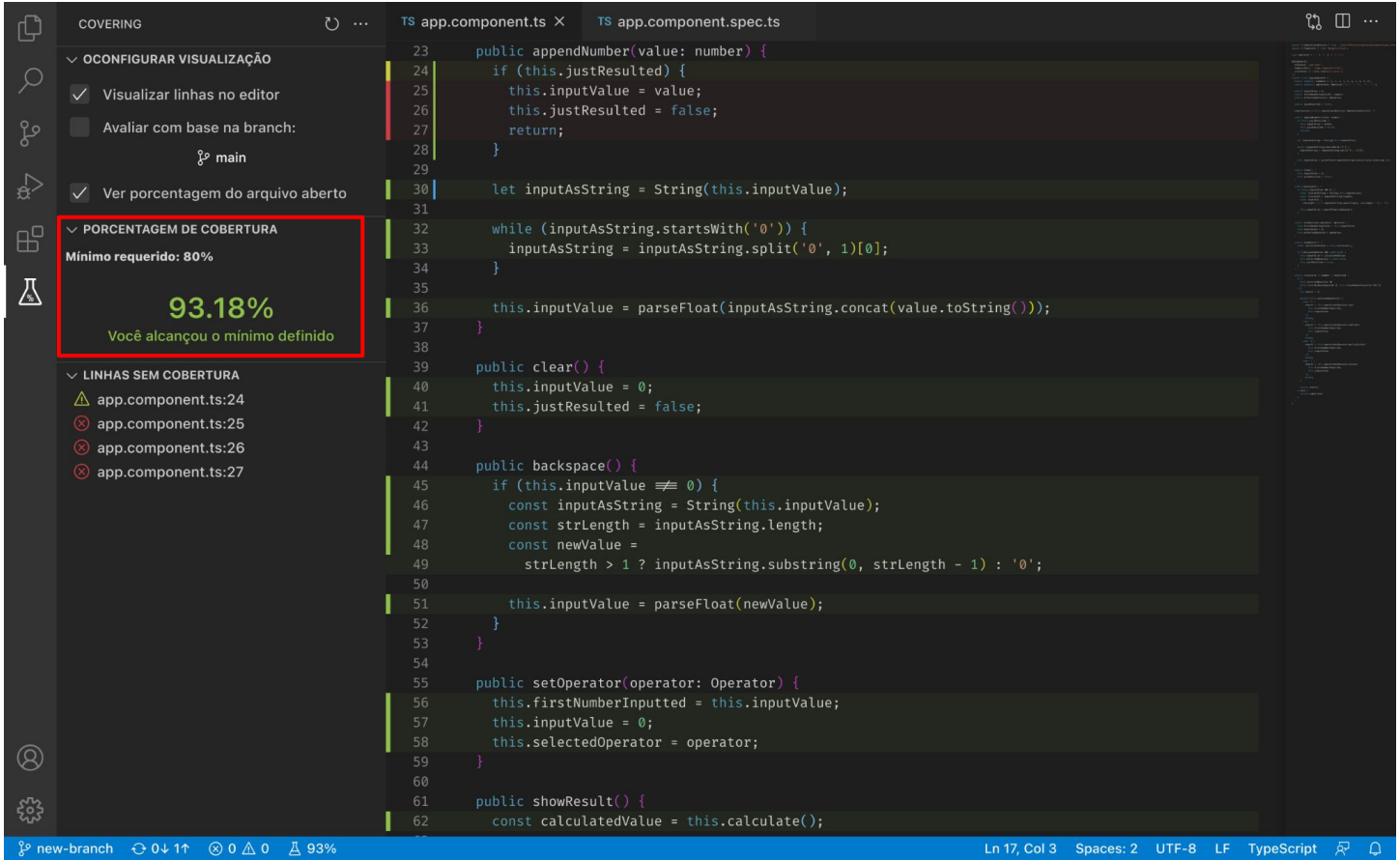

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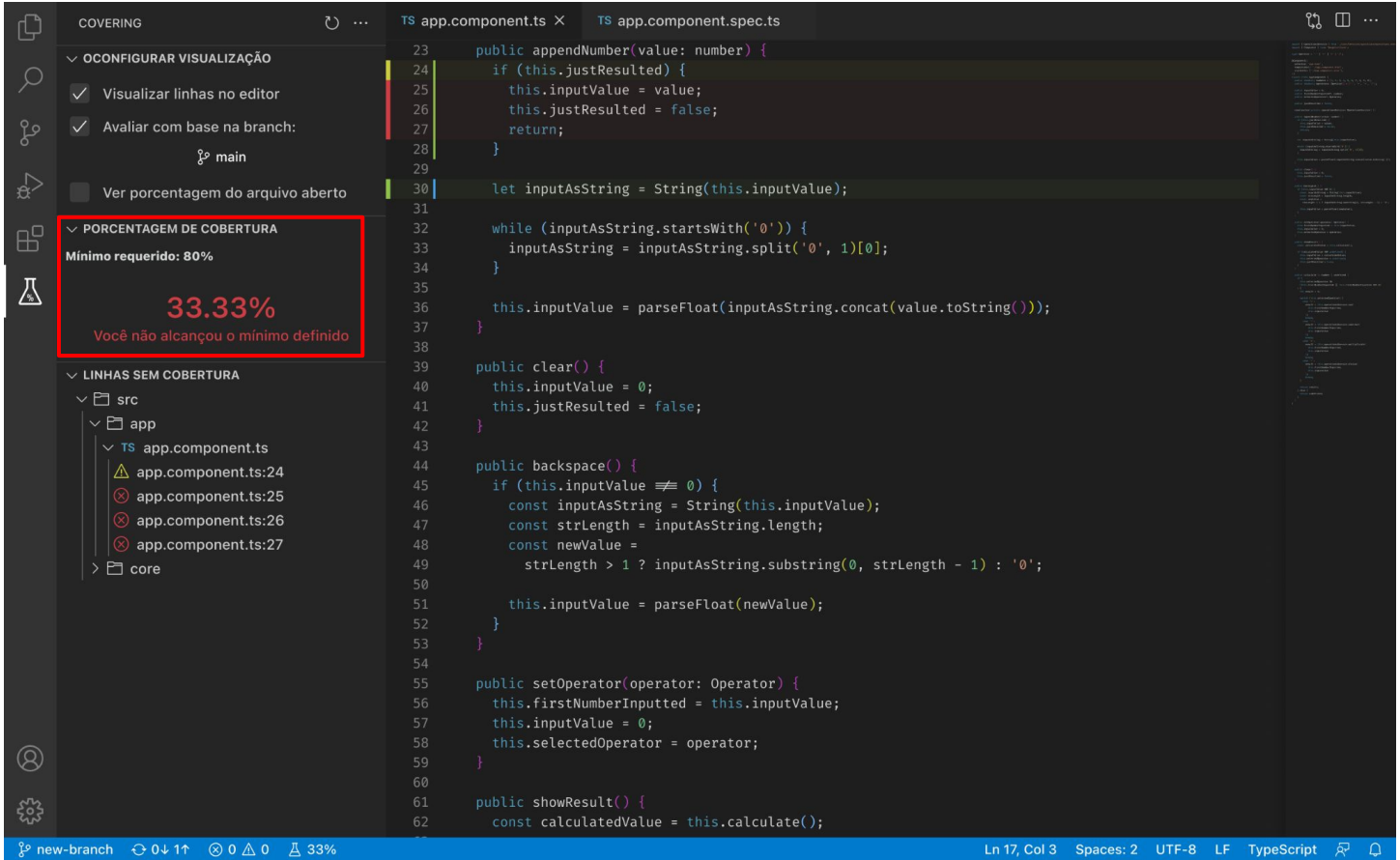

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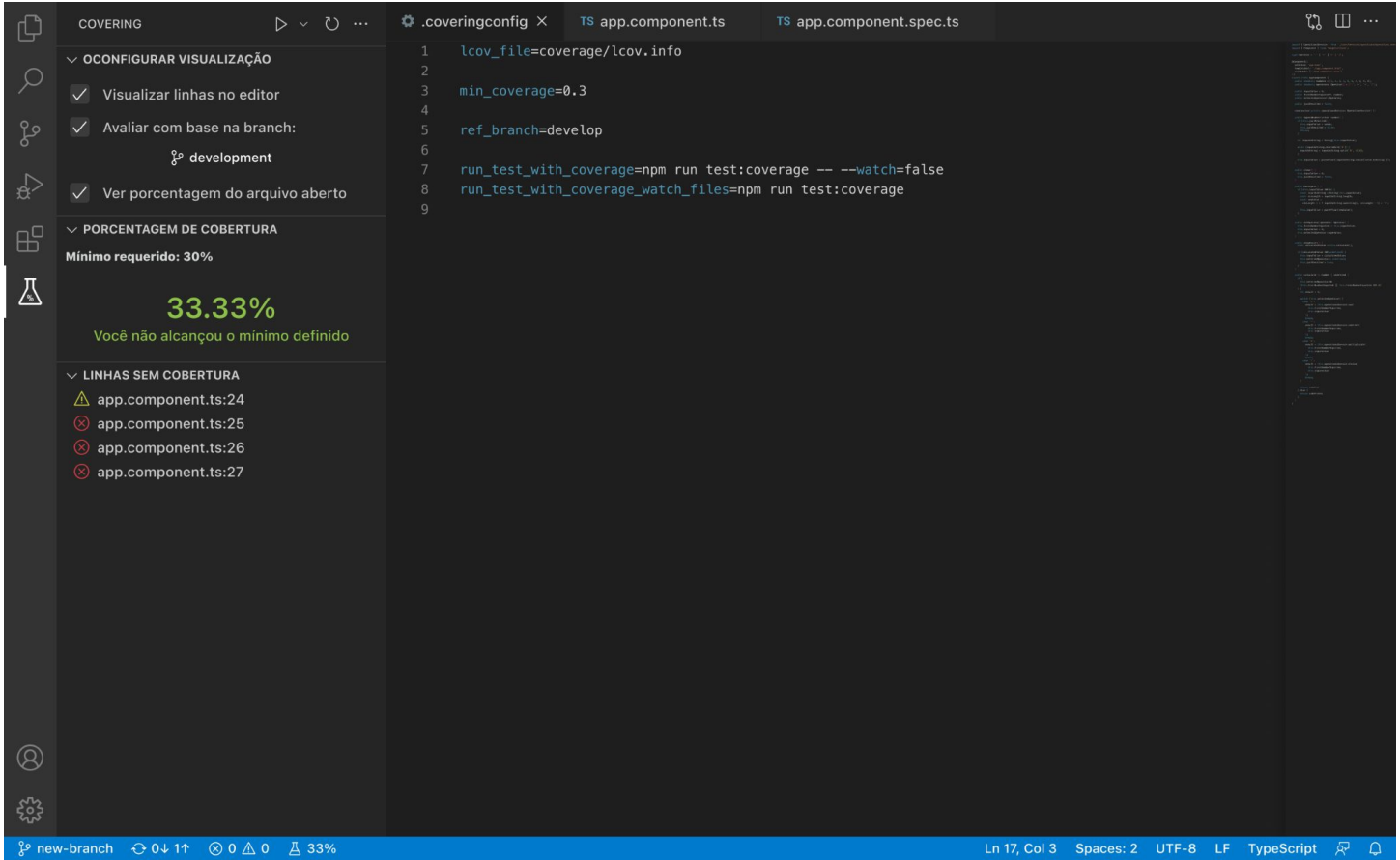

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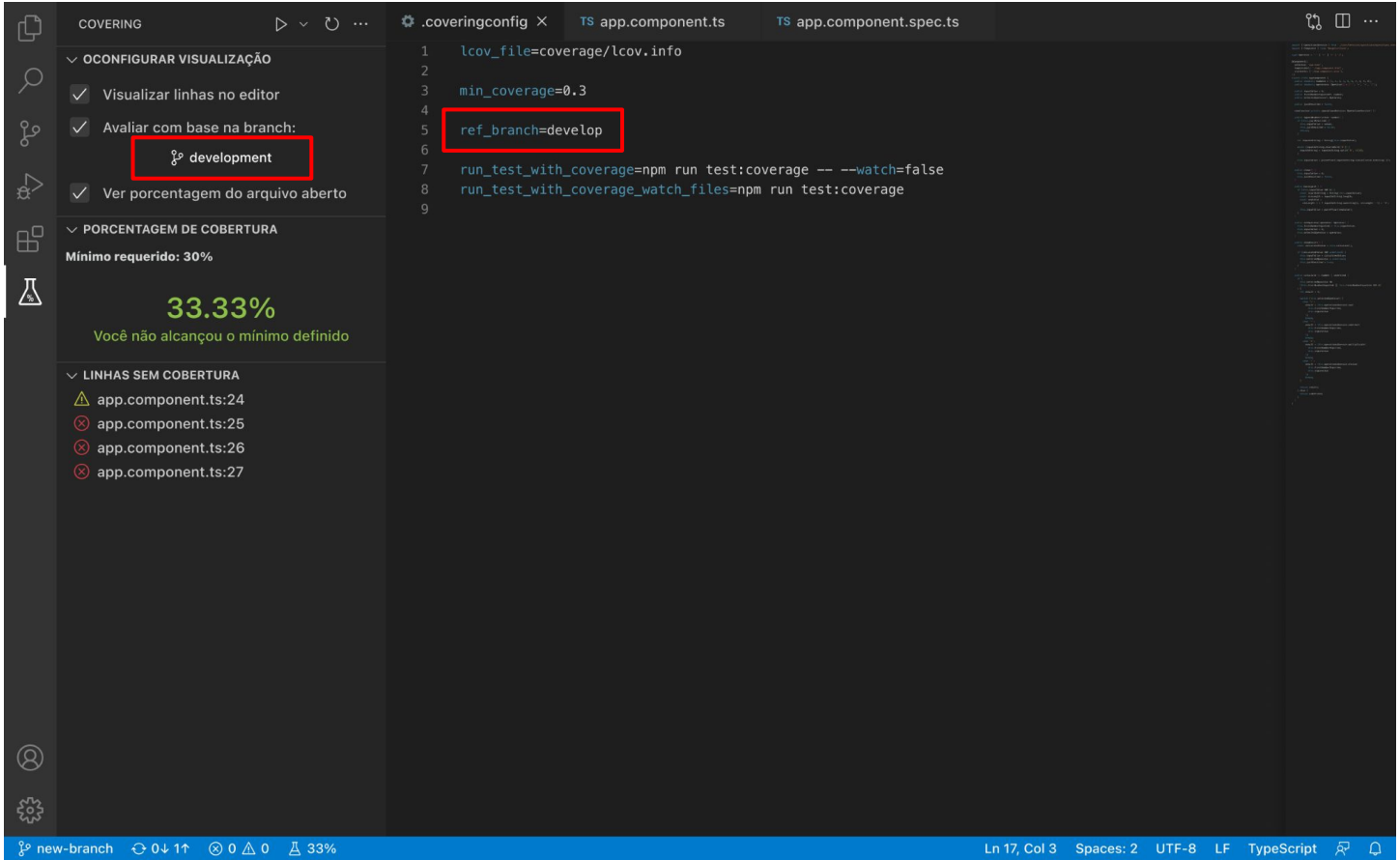

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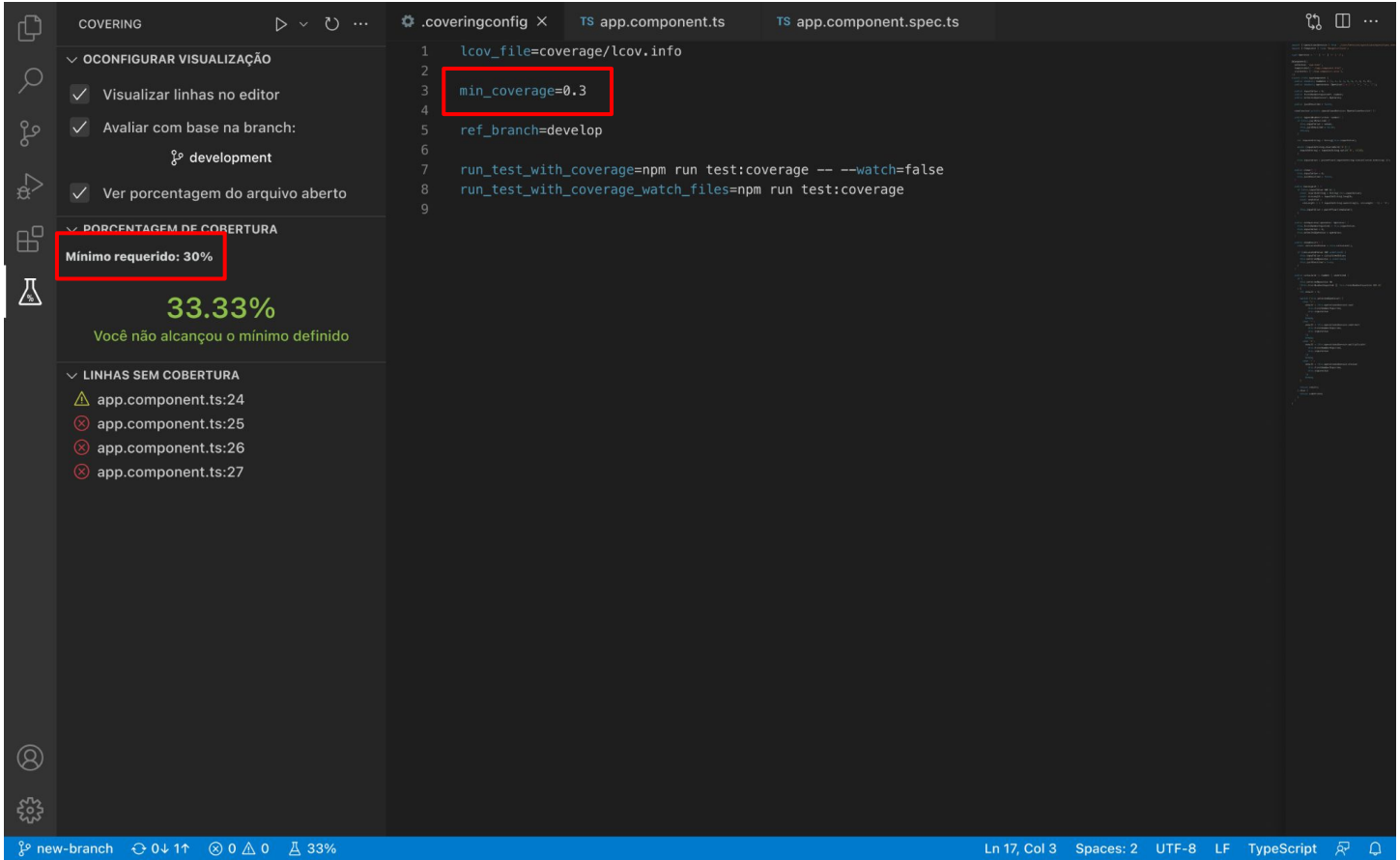

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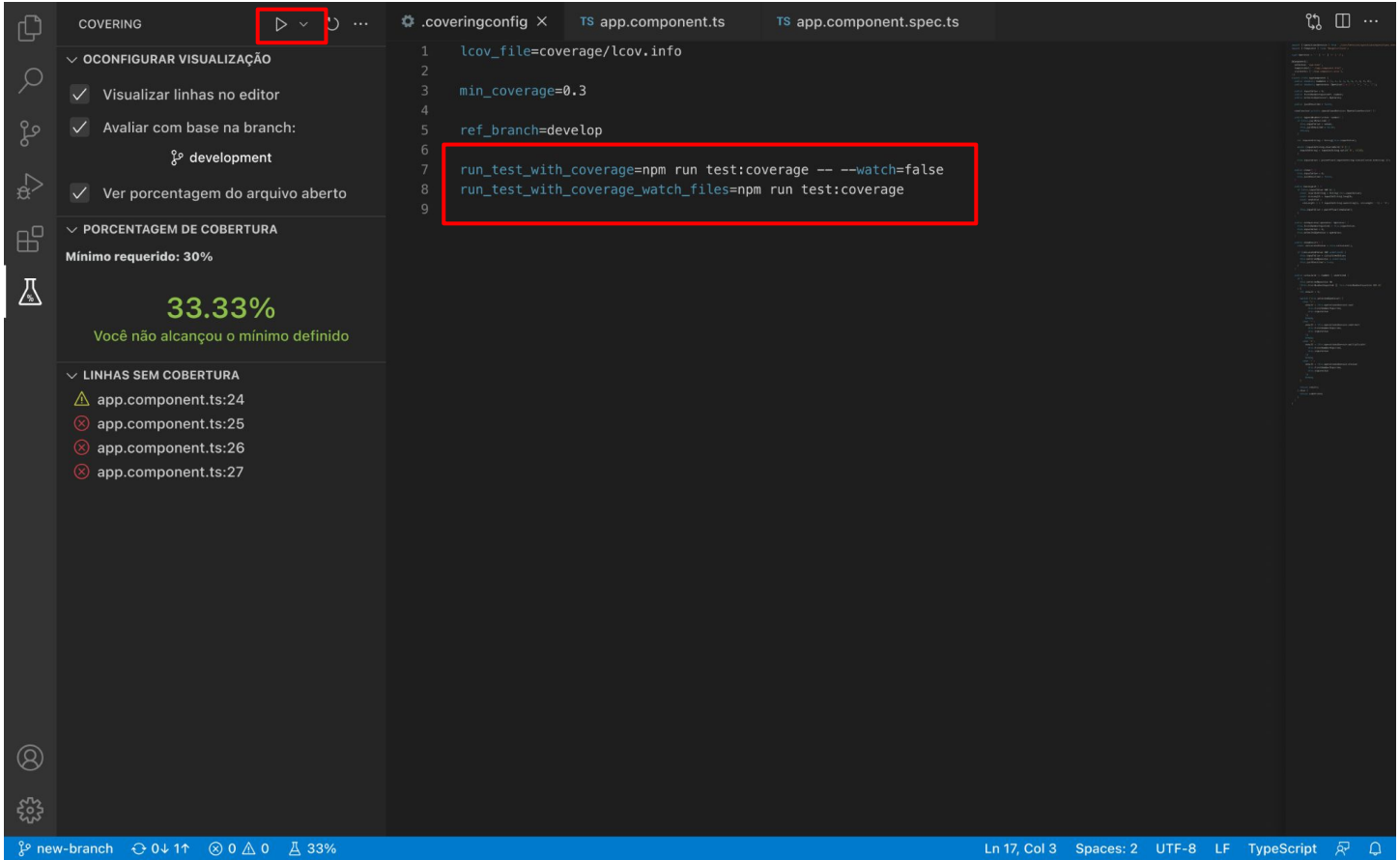
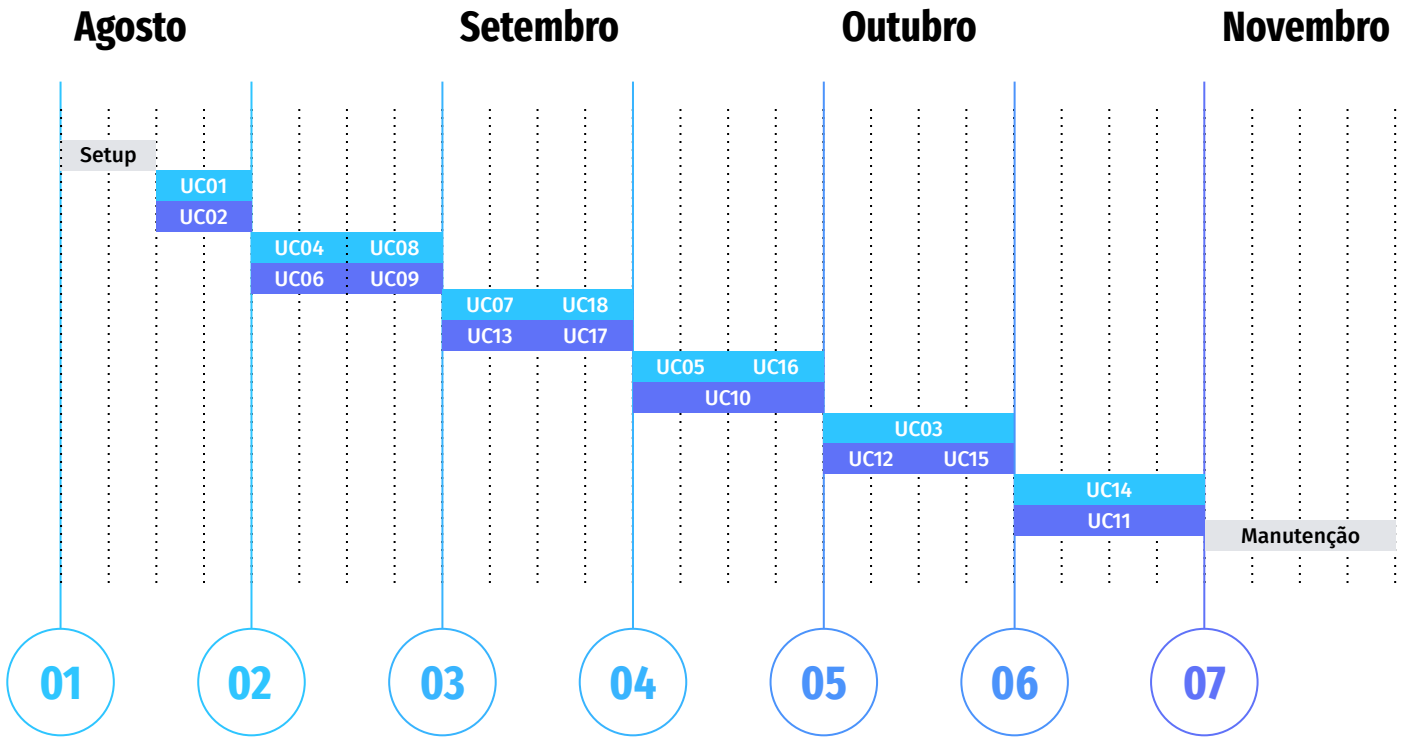


Cronograma do TCC II

Legenda:

- Todos integrantes
- Arthur Amaral
- Guilherme Oliveira

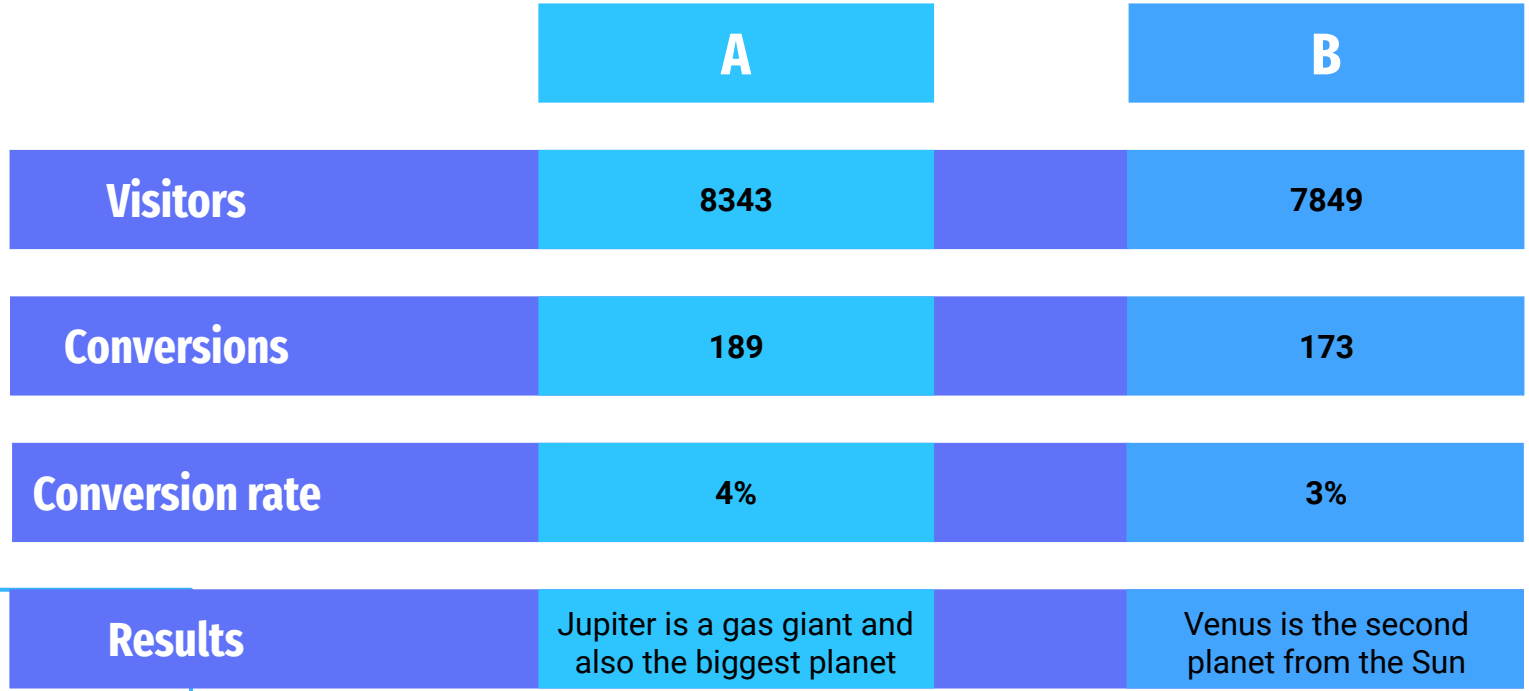


PUC Minas

Obrigado

Arthur Amaral - Guilherme Antônio

A/B Testing Infographics



A/B Testing Infographics

A/B Testing overview

Despite being red, Mars is a cold place full of iron oxide dust

Step 1

Mercury is the smallest of them all

Step 2

Saturn is a gas giant and has several rings

Step 3

Jupiter is the biggest planet of them all

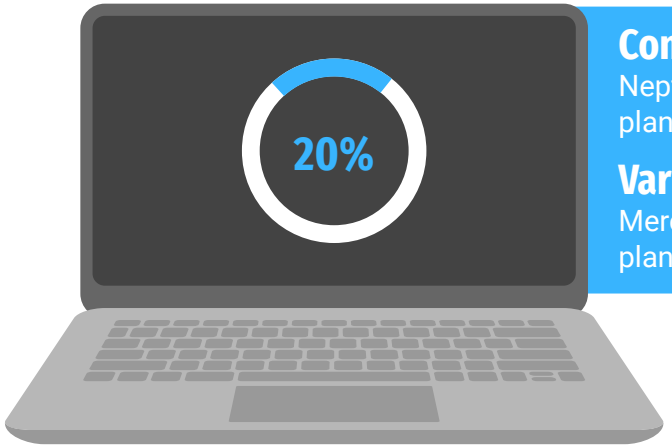
Step 4

Neptune is very far away from Earth

Step 5

Earth is the planet where we live on

A/B Testing Infographics



Control
Neptune is the farthest planet from the Sun

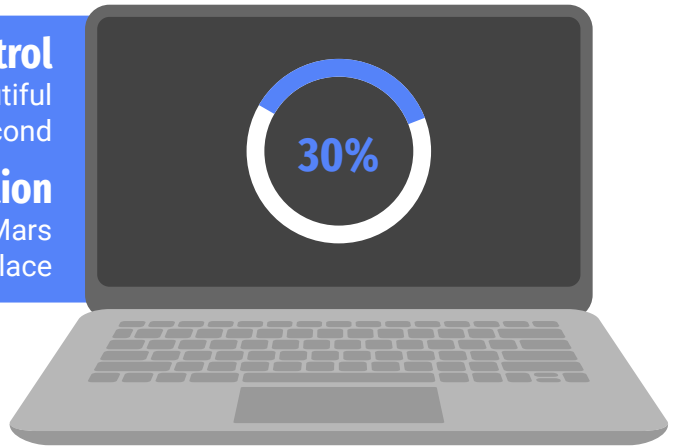
Variation
Mercury is the closest planet to the Sun

A

B

Control
Venus has a beautiful name and is the second

Variation
Despite being red, Mars is a very cold place



A/B Testing Infographics

01

Analyze data

Mercury is the closest planet to the Sun and the smallest one of them all

02

Form an hypothesis

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

03

Experiment

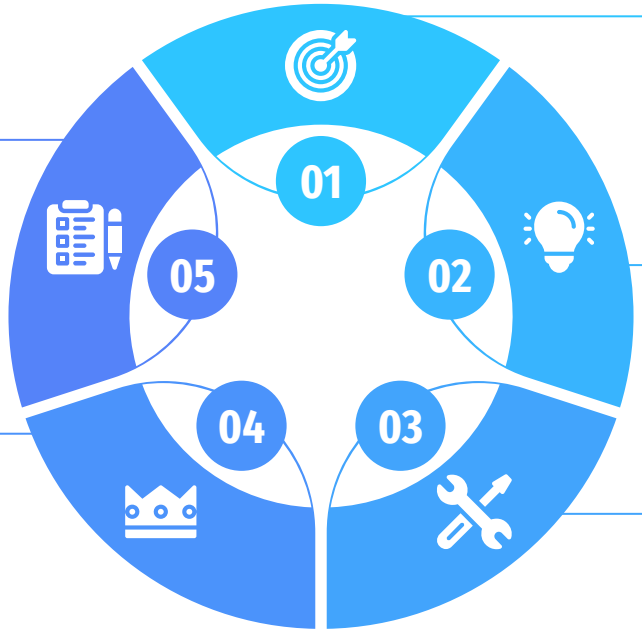
Despite being red, Mars is a very cold planet full of iron oxide dust

04

Evaluate results

Venus is the second planet from the Sun and is terribly hot

A/B Testing Infographics



Define goal

It's a gas giant and the biggest planet

Generate idea

Venus is the second planet from the Sun

Implement changes

Despite being red, Mars is a cold place

Test until significant

Despite being red, Mars is a cold place

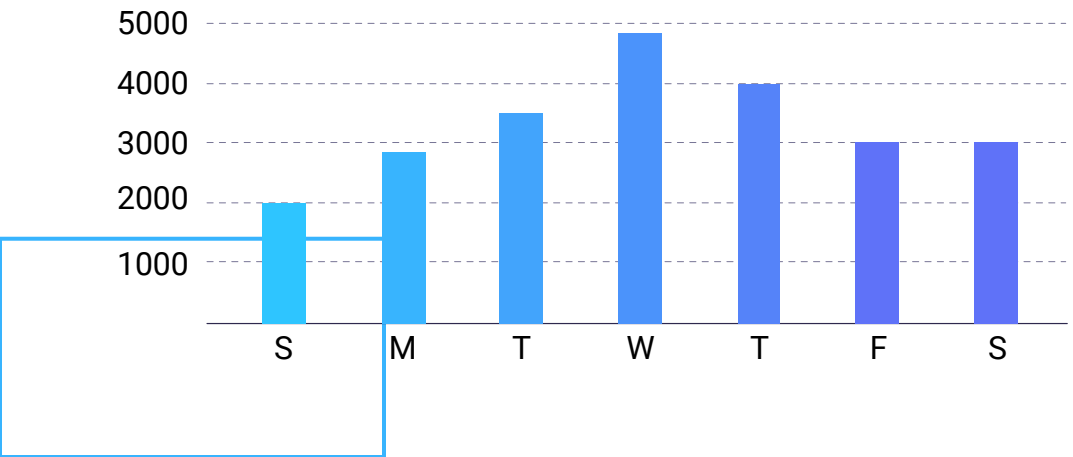
Crown the champion

Mercury is the closest planet to the Sun

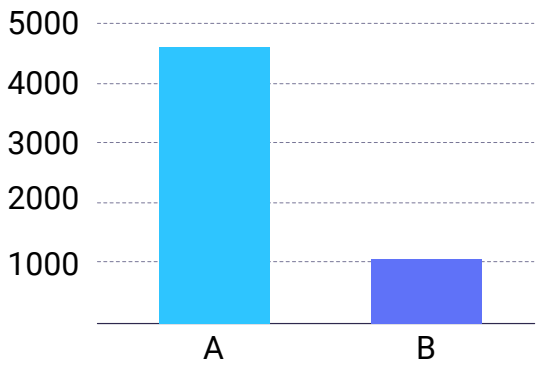
A/B Testing Infographics

Variation	Users	Conversions	CR	Uplift	Change
A Default	30,000	1,200	4.00%	—	—
B Variation	30,000	1,280	4.25%	5.00%	89.1%

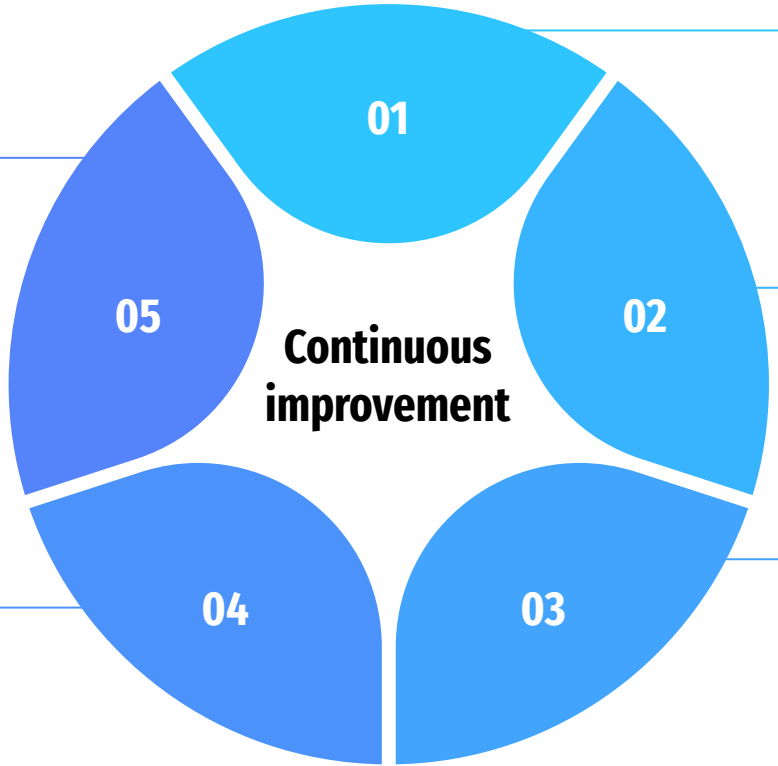
Sum of newsletter sign ups



Chance of B outperforming A



A/B Testing Infographics



01

Define goal

It's a gas giant and the biggest planet

02

Generate idea

Venus is the second planet from the Sun

03

Implement changes

Despite being red, Mars is a cold place

04

Crown the champion

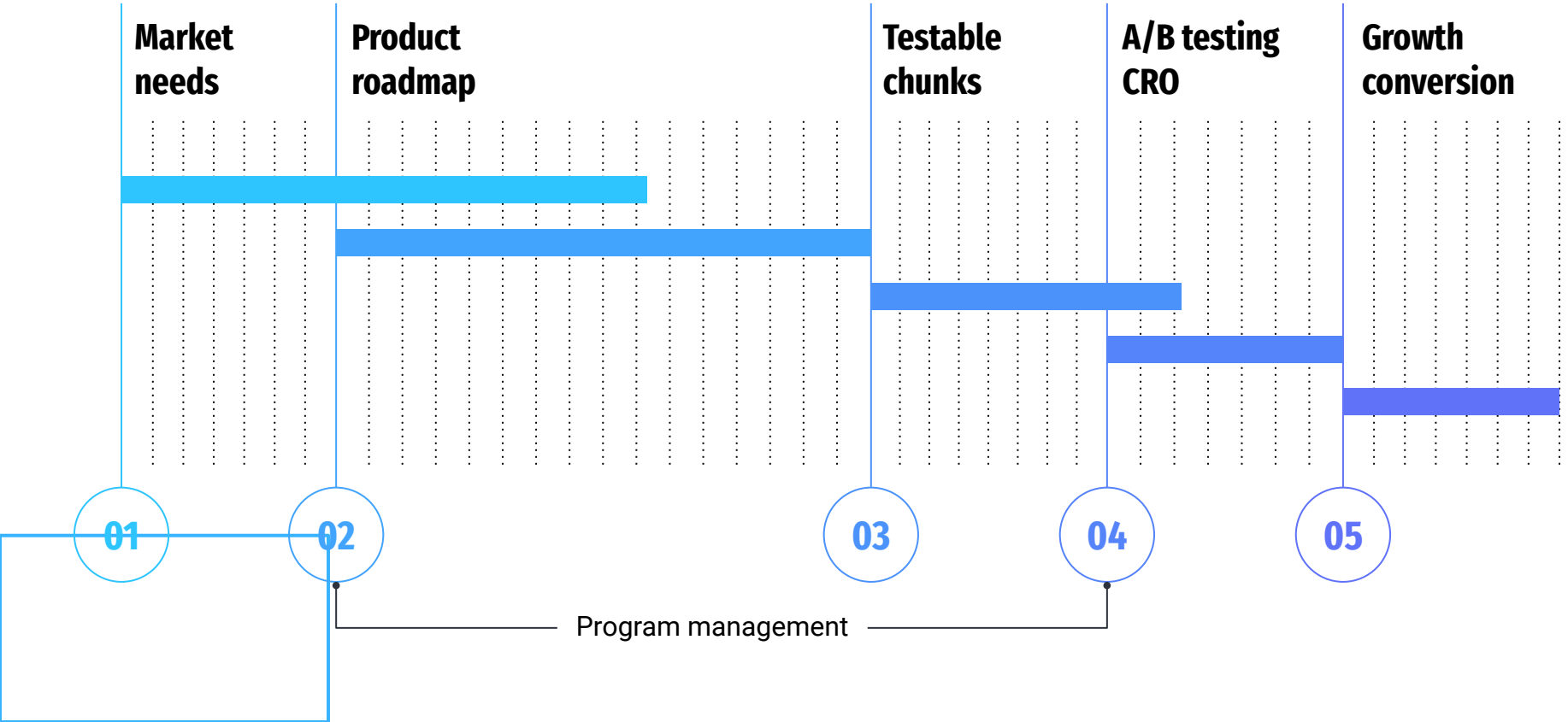
Despite being red, Mars is a cold place

05

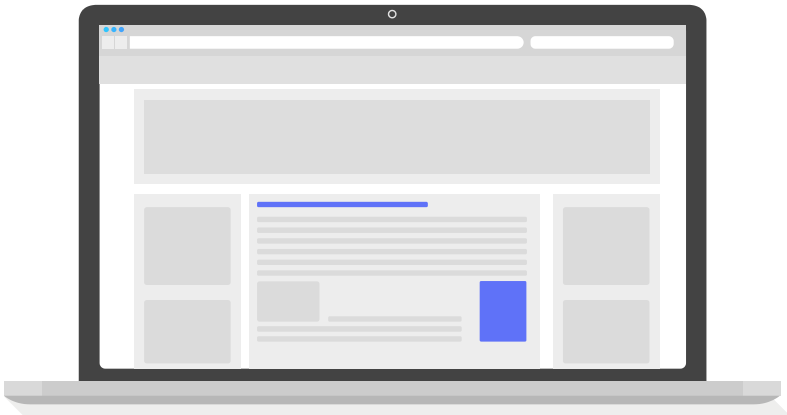
Test until significant

Mercury is the closest planet to the Sun

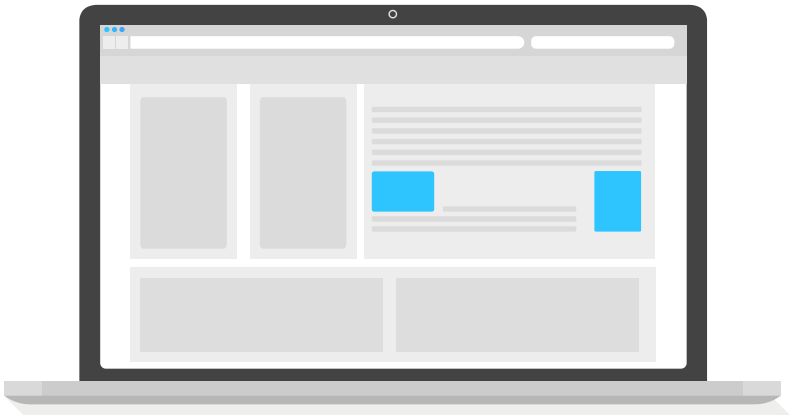
A/B Testing Infographics



A/B Testing Infographics



VS



Variation A

15% conversion

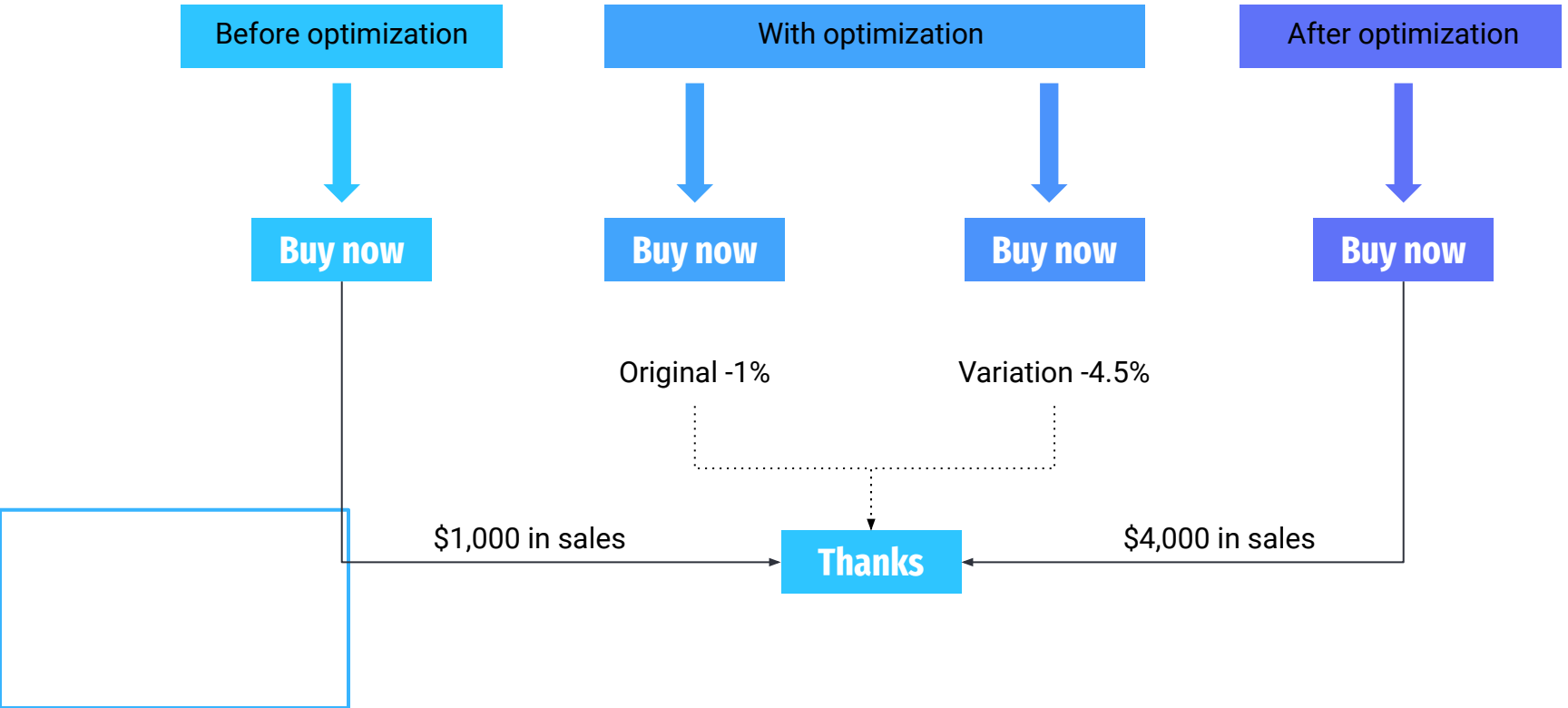
Venus has a beautiful name and is the second planet from the Sun in the Solar System

Variation B

50% conversion

Saturn is the ringed planet. It's composed mostly of hydrogen and helium

A/B Testing Infographics



A/B Testing Infographics

A/B Testing overview

Despite being red, Mars is a cold place full of iron oxide dust

Step 1

Mercury is the smallest of them all

Step 2

Saturn is a gas giant and has several rings

Step 3

Jupiter is the biggest planet of them all

Step 4

Neptune is very far away from Earth

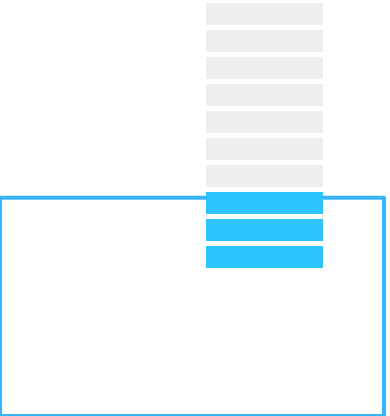
Step 5

Earth is the planet where we live on

A/B Testing Infographics

Control

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



Conversion

30%

Variation

It’s made of hydrogen and helium. It has rings. It’s a gas giant

Conversion

60%

A/B Testing Infographics

8,543 Conversions

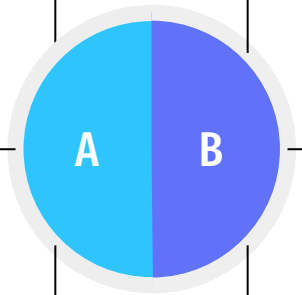
Jupiter is the biggest of them all

5,786 Clicks

Mercury is the smallest planet

4,765 Sign up

Saturn is a gas giant and has rings



Conversions **7,876**

It's the farthest planet from the Sun

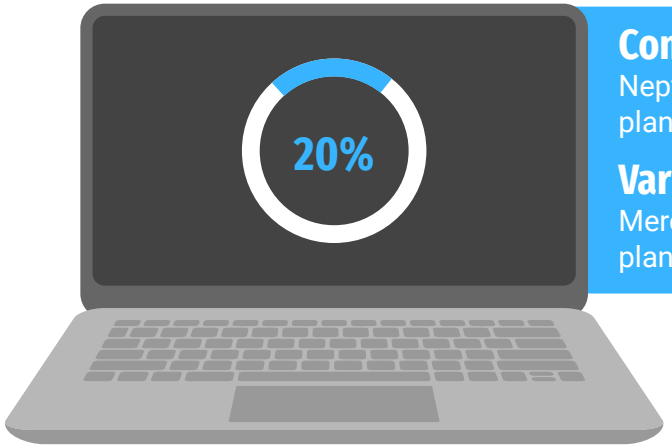
Clicks **3,543**

Venus is the second planet from the Sun

Sign up **4,342**

Earth is the third planet from the Sun

A/B Testing Infographics



Control
Neptune is the farthest planet from the Sun

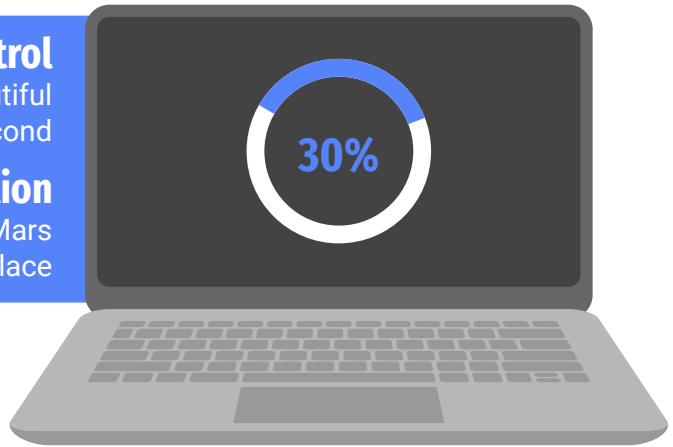
Variation
Mercury is the closest planet to the Sun

A

B

Control
Venus has a beautiful name and is the second

Variation
Despite being red, Mars is a very cold place



A/B Testing Infographics

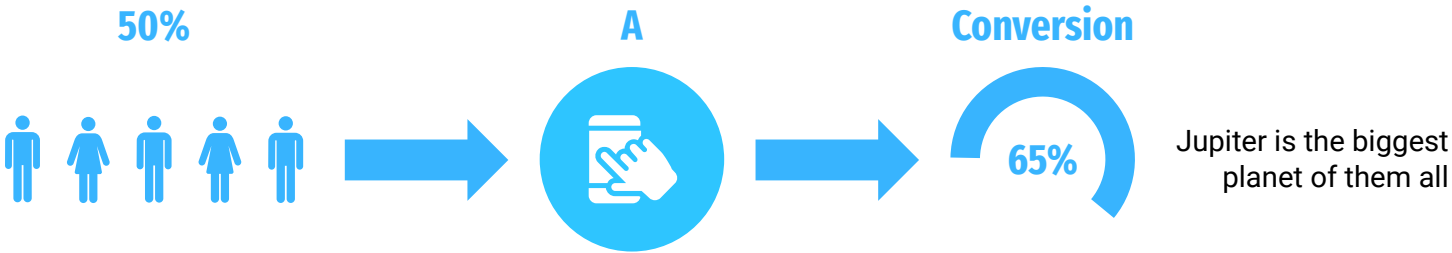
Variation A

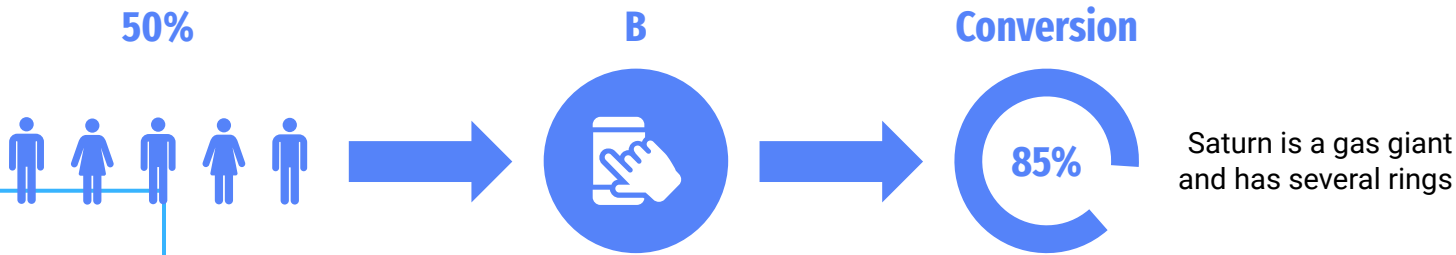
Mercury is the closest planet to the Sun and the smallest one

Variation B

Despite being red, Mars is cold and full of iron oxide dust

A/B Testing Infographics





A/B Testing Infographics

01
Design base layout

Jupiter is a gas giant and also the biggest planet

02
Create variations

Mercury is the closest planet to the Sun

03
Define test plan

Despite being red, Mars is a very cold place

04
Collect data

Venus is the second planet from the Sun

05
Run with best option

Neptune is the farthest planet from the Sun

06
Set up another A/B test

Earth is the only planet that harbors life

A/B Testing Infographics

01
Analyze data
Mercury is the closest planet to the Sun and the smallest one

02
Hypothesis
It’s a gas giant and the biggest planet in the Solar System

03
Experiment
Venus is the second planet from the Sun and it’s terribly hot

04
Evaluate results
Despite being red, Mars is a cold place full of iron oxide dust

A/B Testing Infographics

	Visitors	Conversions	Conversion rate	Results
A	8343	189	4%	Jupiter is a gas giant and also the biggest planet
B	7849	173	3%	Venus is the second planet from the Sun

A/B Testing Infographics

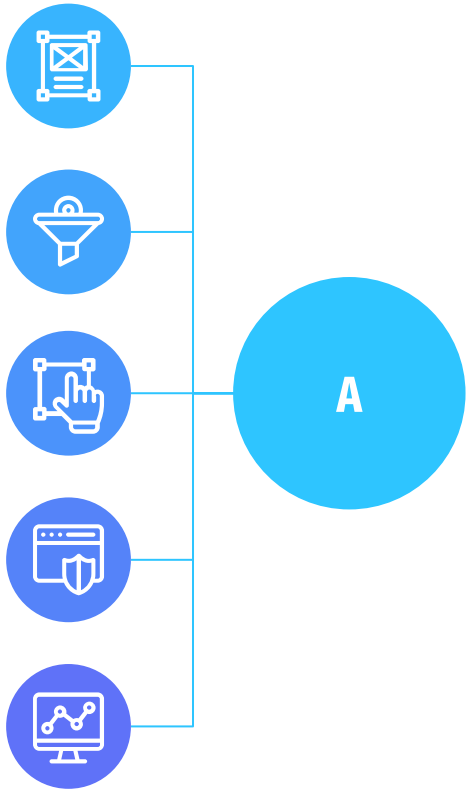
Mercury
Mercury is the closest planet to the Sun

Mars
Despite being red, Mars is a cold place

Jupiter
It’s a gas giant and the biggest planet

Venus
Venus is the second planet from the Sun

Saturn
Saturn is the ringed one. It’s a gas giant



Mercury
Mercury is the closest planet to the Sun

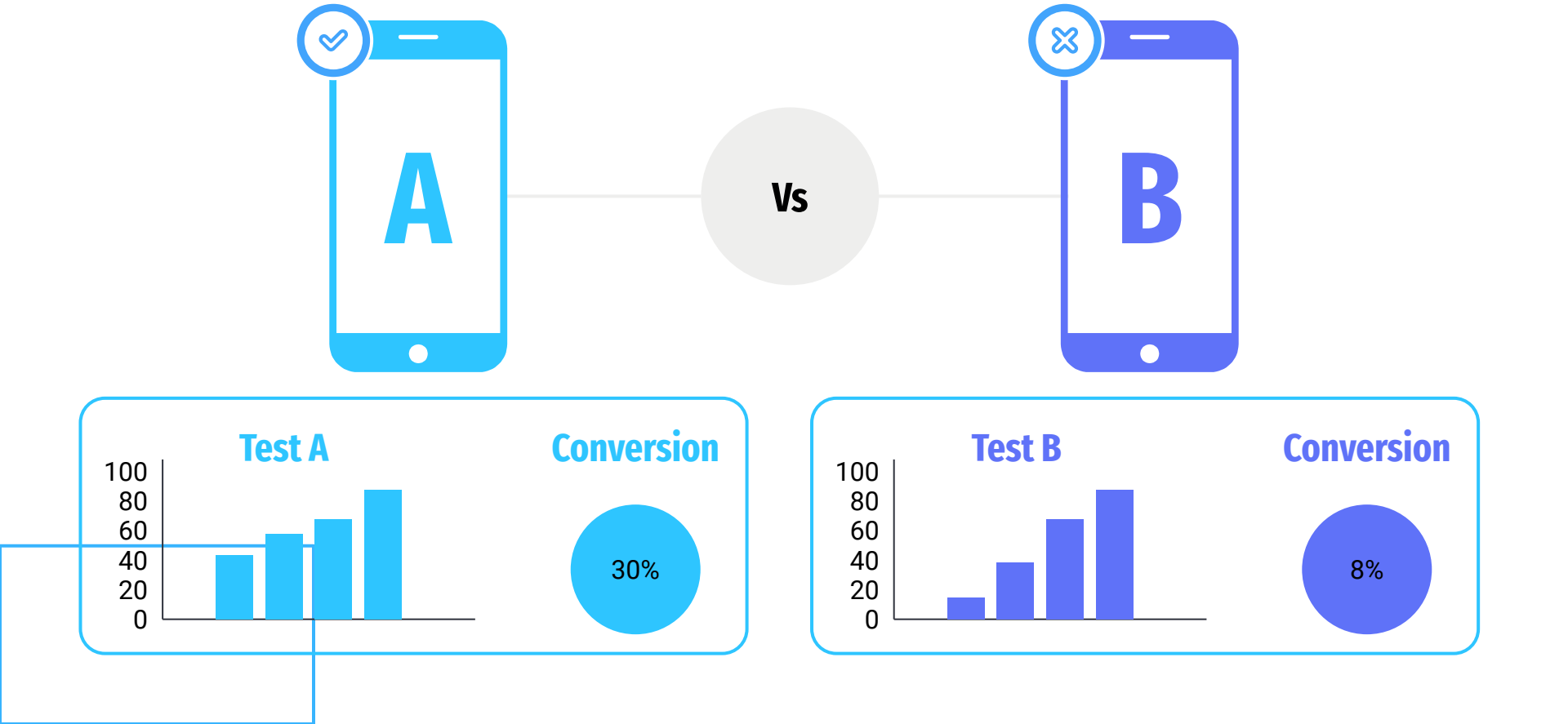
Mars
Despite being red, Mars is a cold place

Jupiter
It’s a gas giant and the biggest planet

Venus
Venus is the second planet from the Sun

Saturn
Saturn is the ringed one. It’s a gas giant

A/B Testing Infographics



A/B Testing Infographics

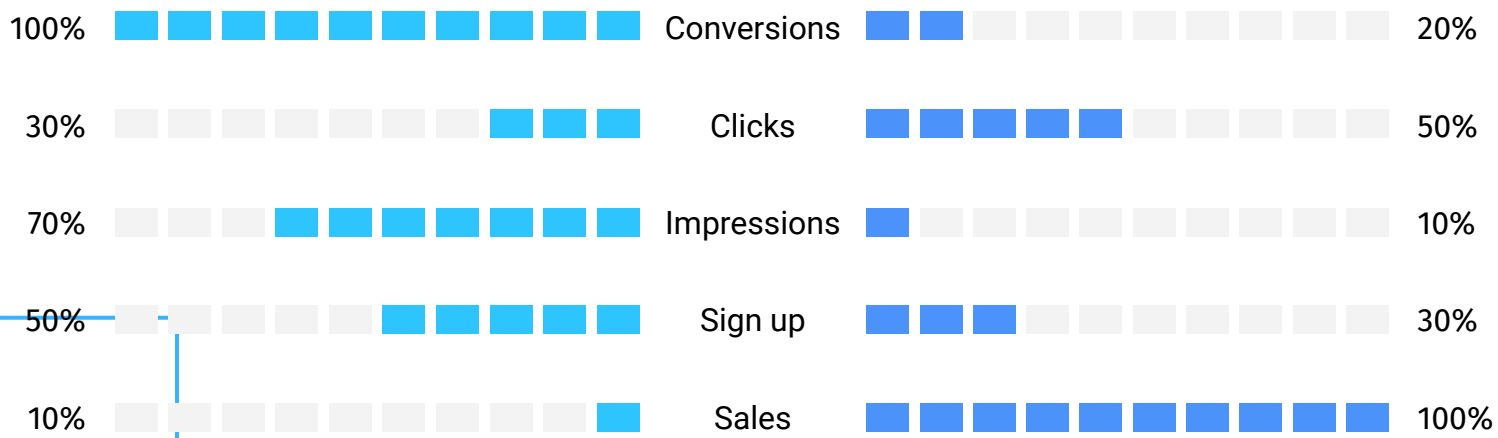
Variation A

Mercury is the closest planet to the Sun

vs

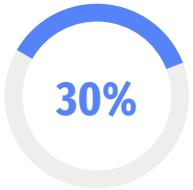
Variation B

Venus is the second planet from the Sun



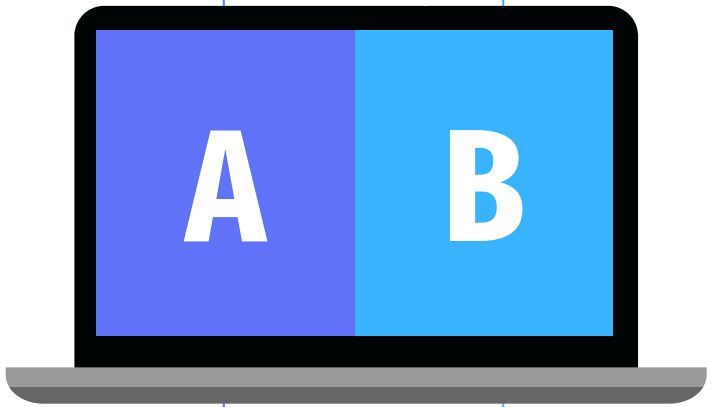
A/B Testing Infographics

Conversion



Control
Venus is the second planet from the Sun

Variation
Despite being red, Mars is a very cold place

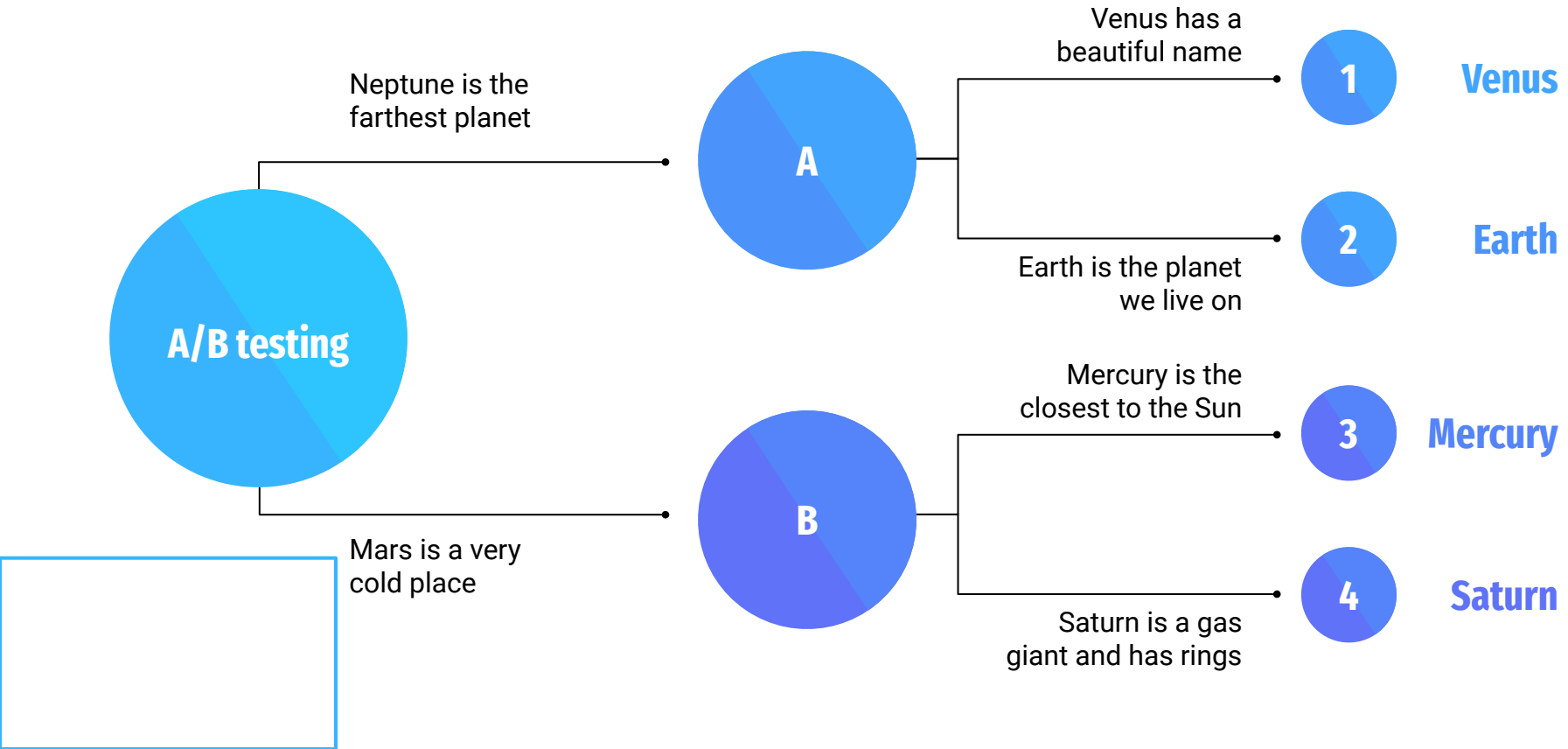


Conversion

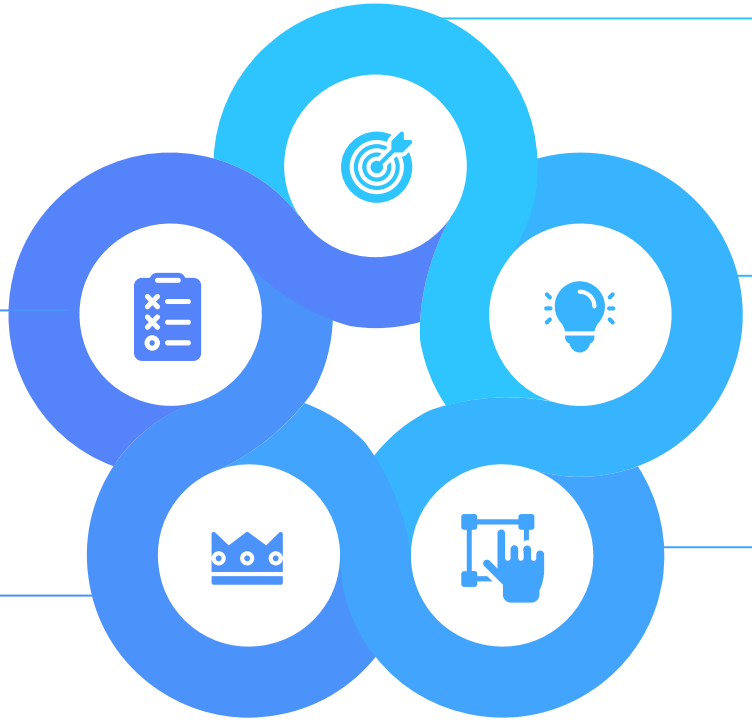
Control
Neptune is the farthest planet from the Sun

Variation
Mercury is the closest planet to the Sun

A/B Testing Infographics



A/B Testing Infographics



01
Define goal
It’s a gas giant and the biggest planet

02
Generate idea
Venus is the second planet from the Sun

03
Implement changes
Despite being red, Mars is a cold place

04
Crown the champion
Despite being red, Mars is a cold place

05
Test until significant
Mercury is the closest planet to the Sun

A/B Testing Infographics

01

Define goal

It’s a gas giant and the biggest planet

02

Generate idea

Venus is the second planet from the Sun

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Implement changes

Despite being red, Mars is a cold place

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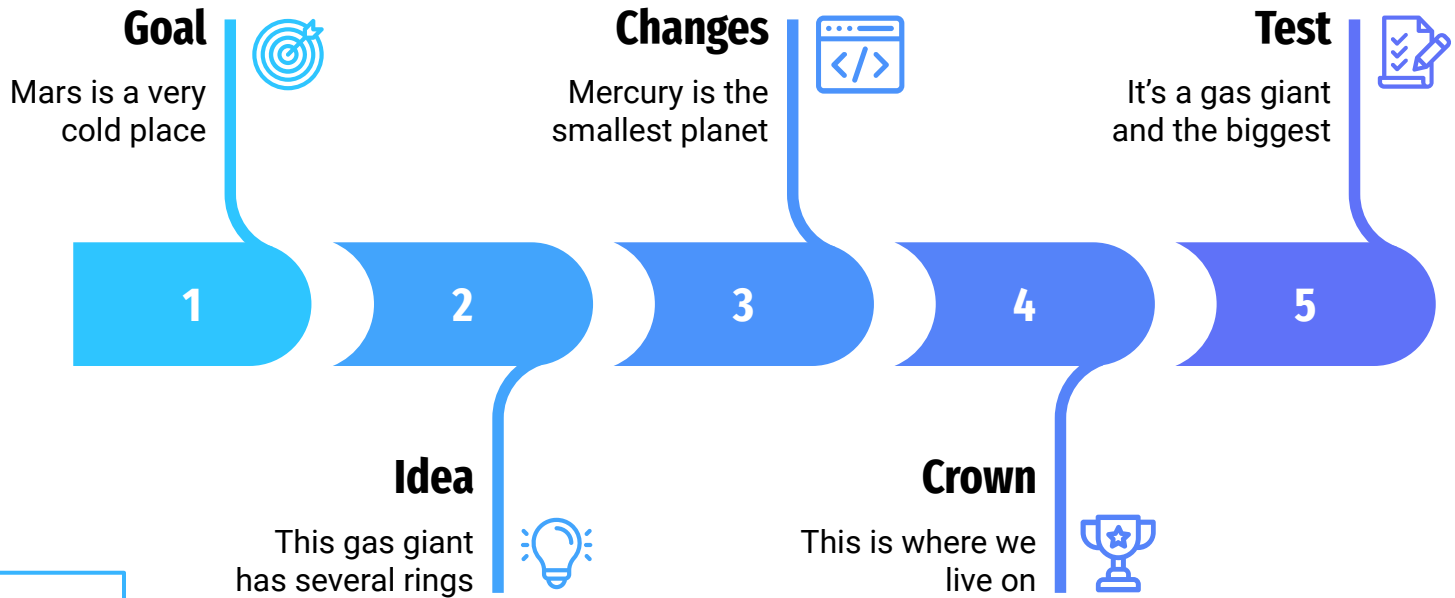
Test until significant

Despite being red, Mars is a cold place

A/B Testing Infographics



A/B Testing Infographics

Variation A

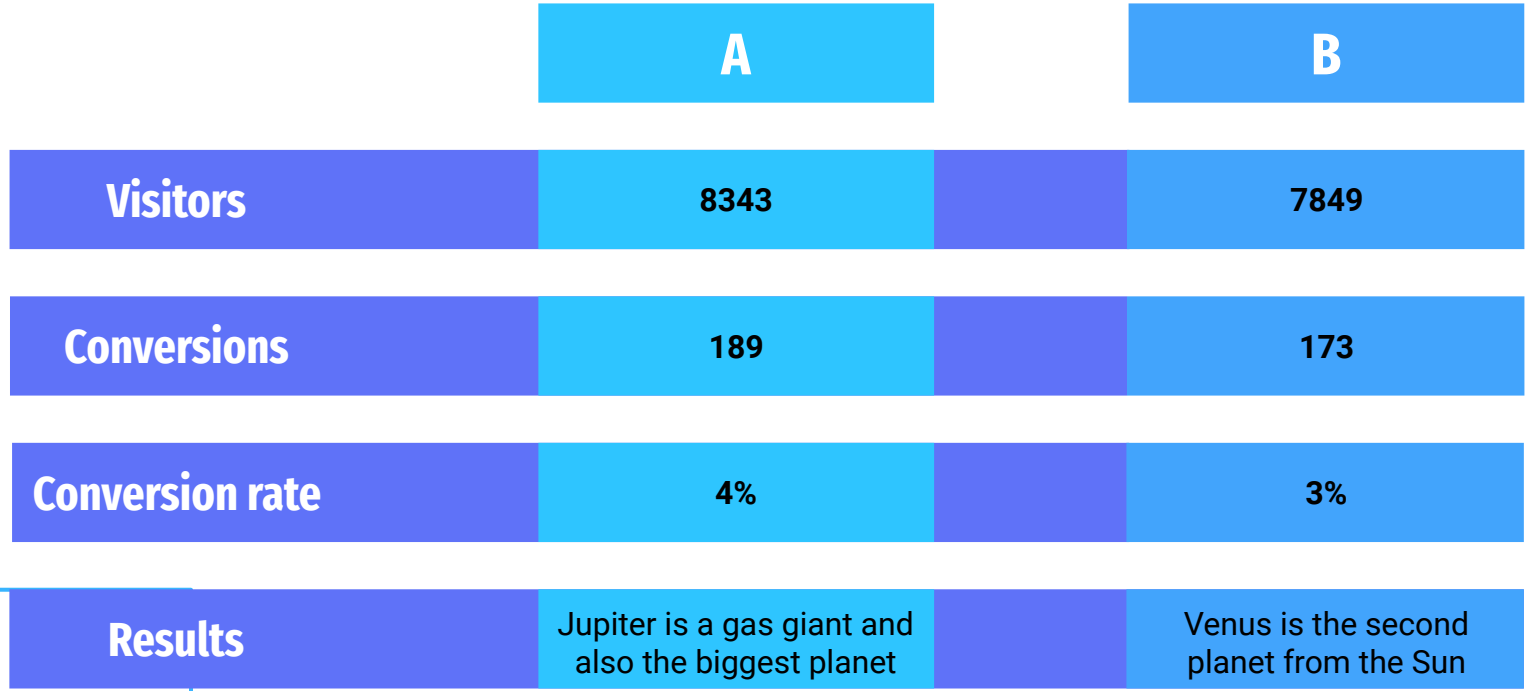
75%

Mercury is the closest planet to the Sun and the smallest one

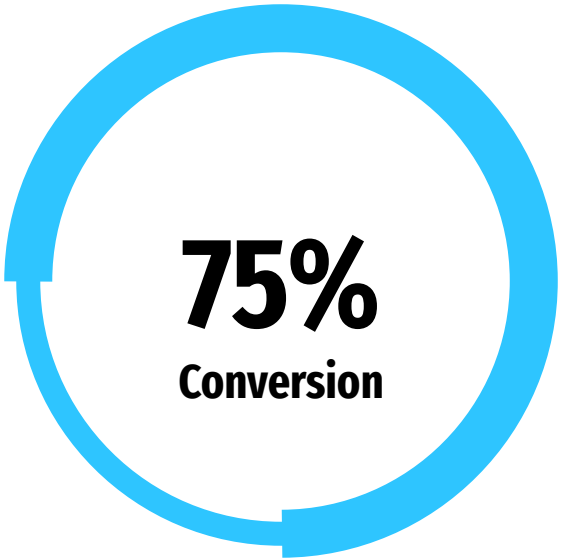
Variation B

25%

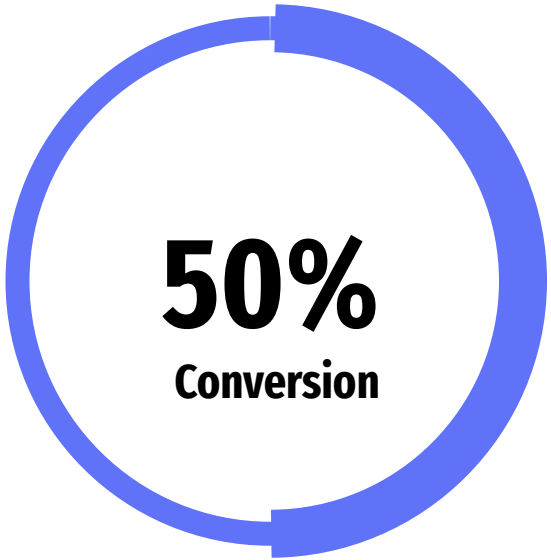
A/B Testing Infographics



A/B Testing Infographics



VS



Variation A

Despite being red,
Mars is a cold place

Variation B

Venus is the second
planet from the Sun

A/B Testing Infographics

01

Analyze data

Mercury is the closest planet to the Sun and the smallest one of them all

02

Form an hypothesis

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

03

Experiment

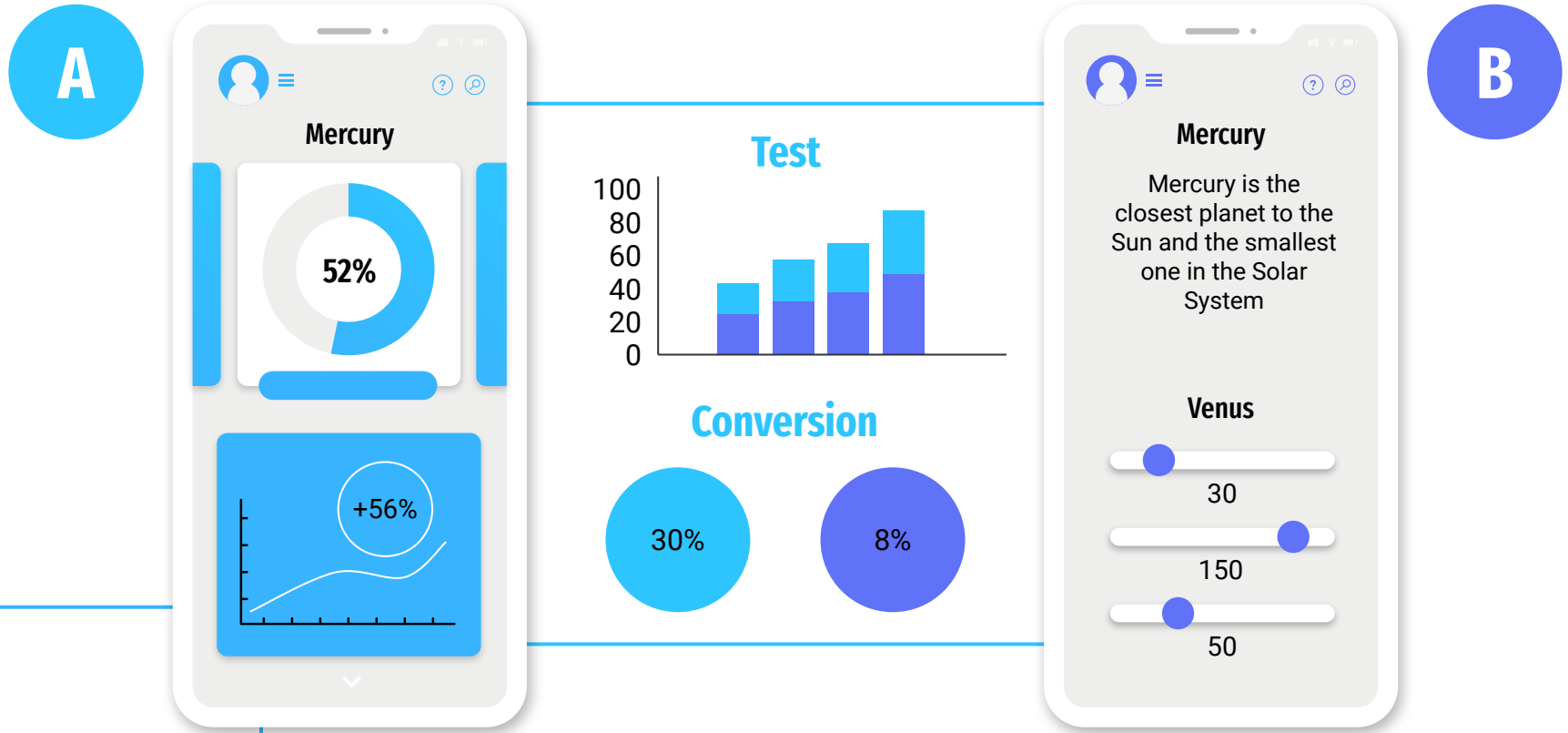
Despite being red, Mars is a very cold planet full of iron oxide dust

04

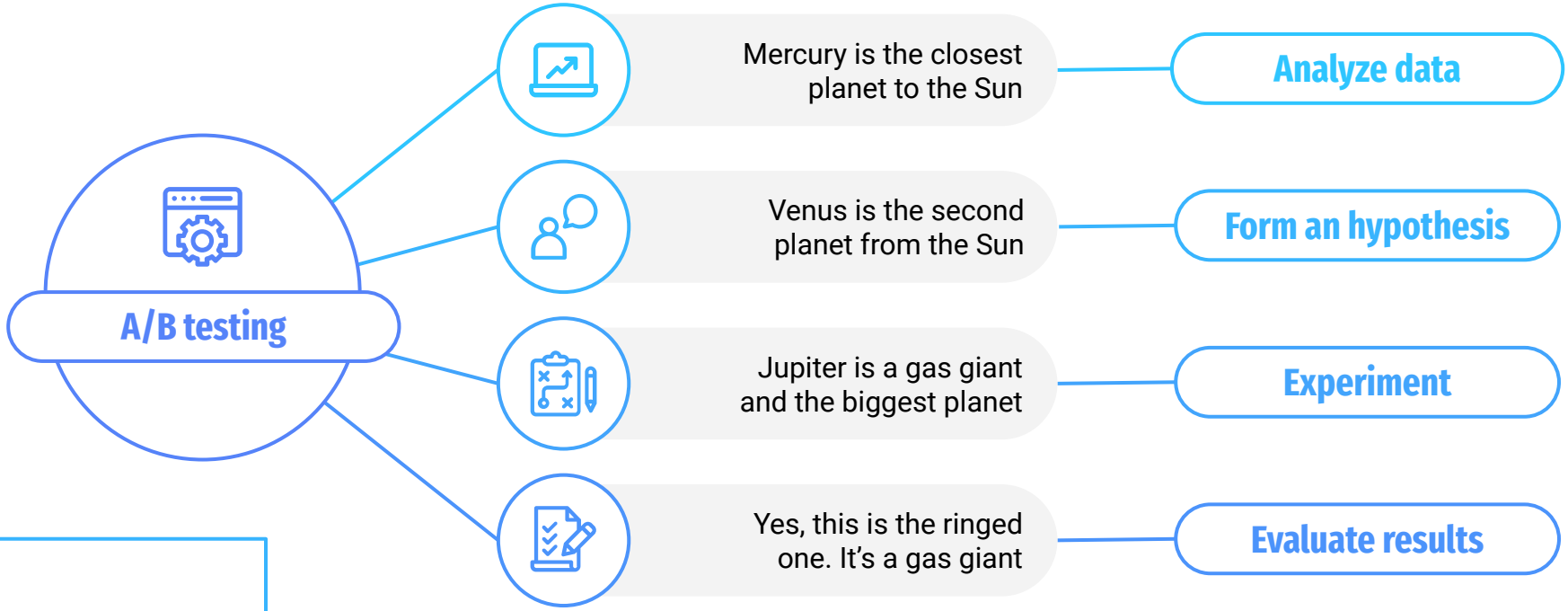
Evaluate results

Venus is the second planet from the Sun and is terribly hot

A/B Testing Infographics



A/B Testing Infographics



Escopo

Data

Earth is the third planet from the Sun

Hypothesis

It's the farthest planet from the Sun

Experiment

Despite being red, Mars is a cold place

Evaluation

It's the closest object to the Sun

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