

# Uncovered: The Hard Truth about OTel's Vendor Neutrality

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**Adriana Villela** (Dynatrace)  
**Josh Lee** (Altinity)



# How did we get here??



**Josh Lee** · 1st

Open Source Advocate @ Altinity - ClickHouse®, Kubernetes, & ...  
1mo · 🌐



I still hear people saying that "OpenTelemetry is vendor neutral so you can switch vendors any time you want to."

This is like saying that because the vCard format exists, it's easy to switch from iOS to Android. Sure, your core data will ultimately be portable, but you'll be missing a *\*lot\** of other things.

Open formats are awesome — and essential for portability to be possible at all — but they are not a panacea that will save you from understanding your own use case.

[#opentelemetry](#) [#otel](#)

**Standardization**  
**is GOOD**



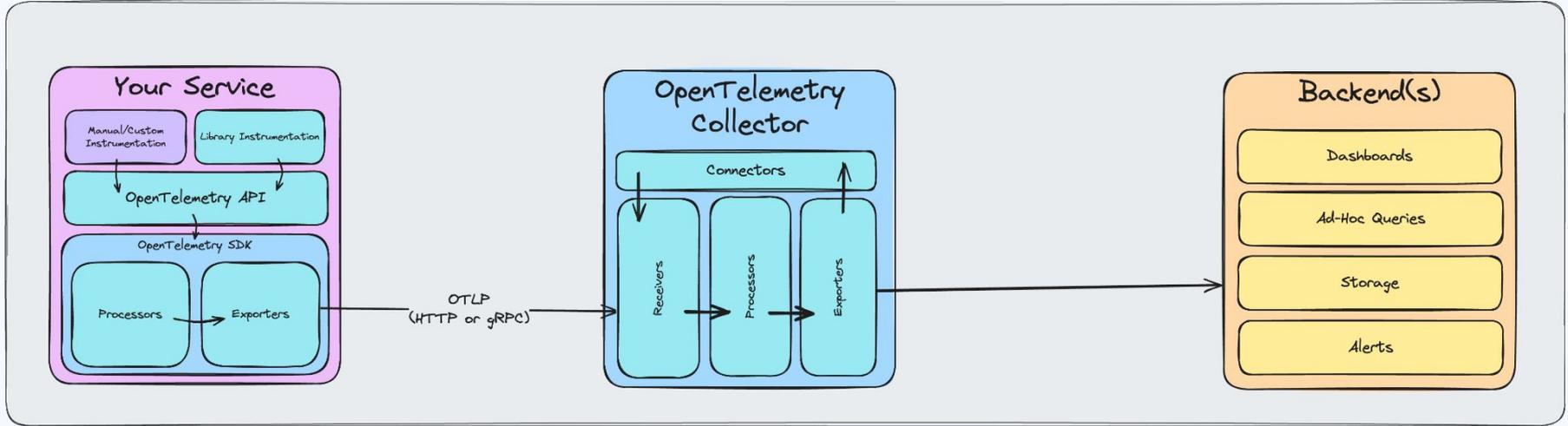
# What are some of the standards that you're grateful for?





**OpenTelemetry**

NET 12 FL. OZ. (355 ml)



# Witam!



**Adriana Villela**

Principal Dev Advocate, Dynatrace  
OTel End User SIG Maintainer



**Josh Lee**

Open Source Advocate, Altinity  
ClickHouse®, K8s, & OTel





# 01

**Why does  
OpenTelemetry exist?**

# 03

**The beauty of  
interoperability**

# 05

**How do we change this?**  
Our vision for the future...

# 02

**What's neutral?**  
The layers of compatibility  
with OpenTelemetry

# 04

**The vendor switch**  
Know what you're getting  
into before taking the plunge

# 06

**Why is OTel successful**  
How did we get standards  
*compaction?!*

**OpenTelemetry  
exists because of  
distributed tracing**

# OpenTelemetry exists because of distributed tracing...



## Open data formats

Observability & monitoring beg to be open.



## Distributed computing

Microservices changed the game for monitoring.



## Vendor neutrality

OpenTelemetry solves the vendor-neutrality challenge.



**What makes  
OpenTelemetry  
vendor neutral?**

# OpenTelemetry components

01



**Semantic  
Conventions**

02



**API & SDK**

03



**OTLP**

04



**Collector**

# Semantic Conventions

Naming conventions for various resources (entities) and metadata.

The key enabler of interoperability and standardization.



# OTel API

Defines the methods used to instrument applications, and serves as the entry point for instrumentation.

Enables applications and libraries to be instrumented "agnostically".



# OTel SDK

Implements the API and determines *how* the telemetry is generated and correlated.

Typically used to translate between API calls and OTLP, but can be used for customization.



# OTLP

Specification for encoding,  
transmitting and delivering  
OpenTelemetry data.

Enables interoperable pipelines  
and multicasting.



# OTel Collector

A vendor-neutral binary used to ingest, transform, and export data to one or more Observability back-ends.

Think of it as data pipeline swiss-army knife.



**The beauty of  
interoperability**

# Interoperability means...

## Having choices

OTel's open formats mean that interoperable tools can be used alongside each other all the time.

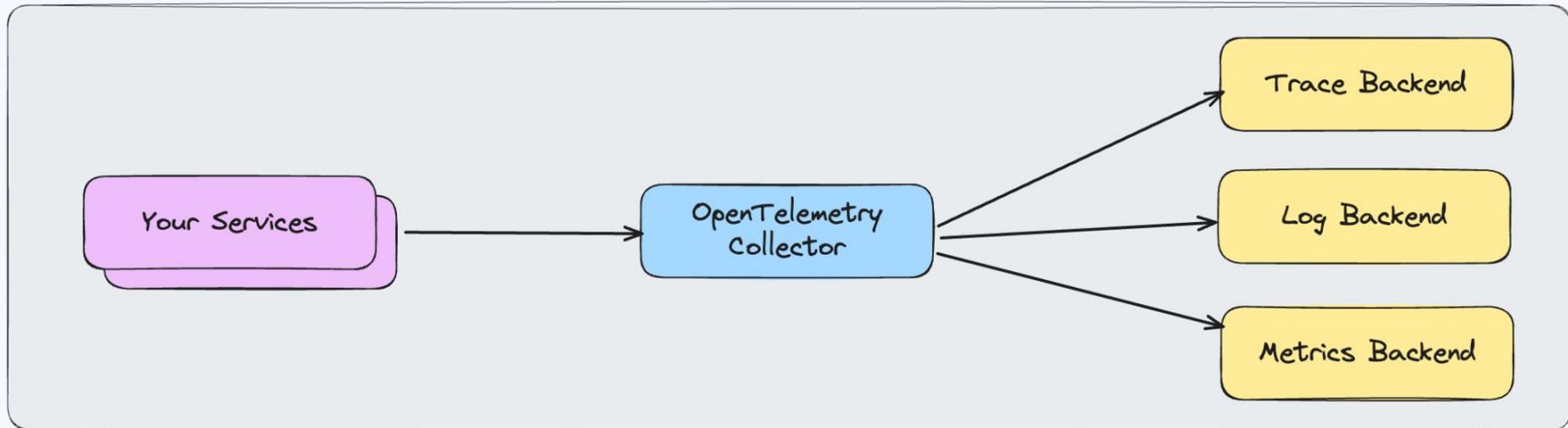


# Interoperability means...

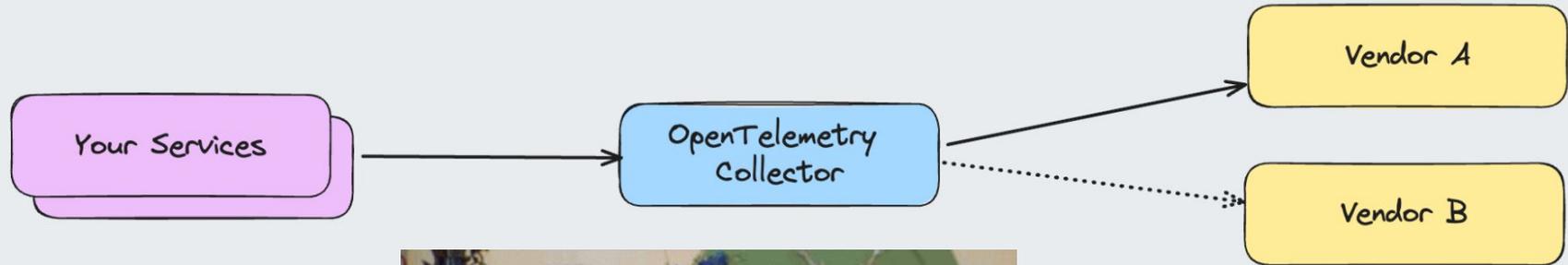
Having having your cake  
and eating it too



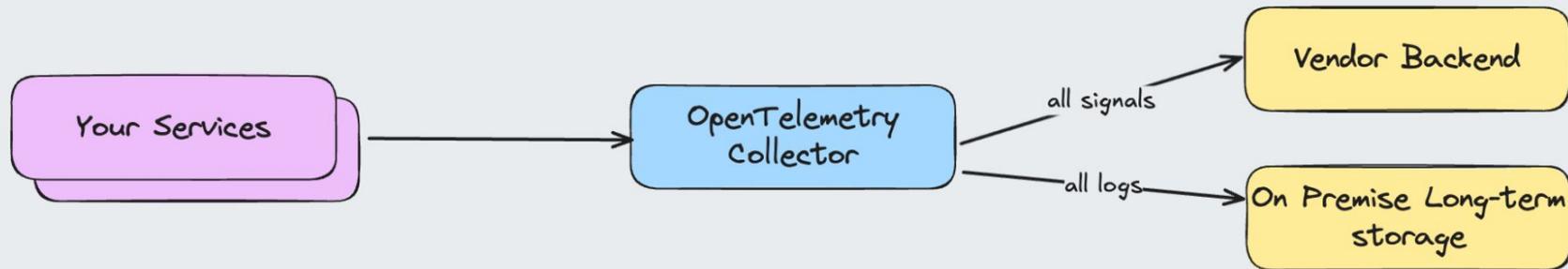
# One tool for each signal



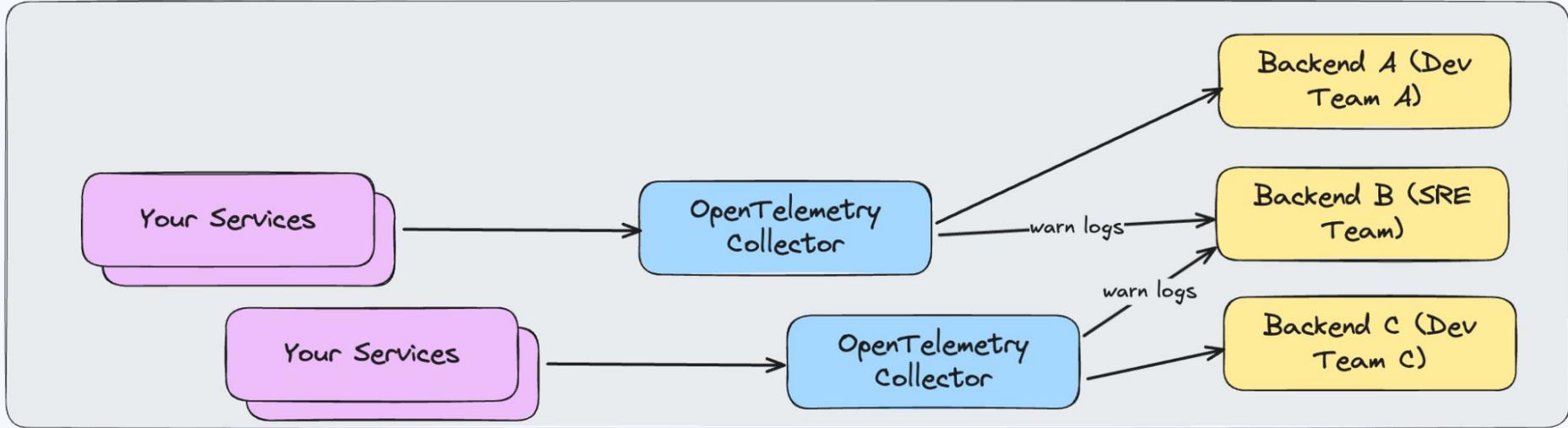
# One (or more) tools for all signals



# One tool for everything, and a specific tool for something else



# Specific pipelines for specific teams



**The vendor  
switch: know what  
you're getting into**

**Boss: we're  
going to lift  
and shift**



# Not-so-neutral means...



## Look & feel

Getting used to a new UI



## Storage & historical data

Can't easily export historical data (if at all)



## Queries & dashboards

Redoing dashboards and learning query languages sucks



# Not-so-neutral means...



## Alerts & SLOs

Creating new alerts and SLOs...if they're supported



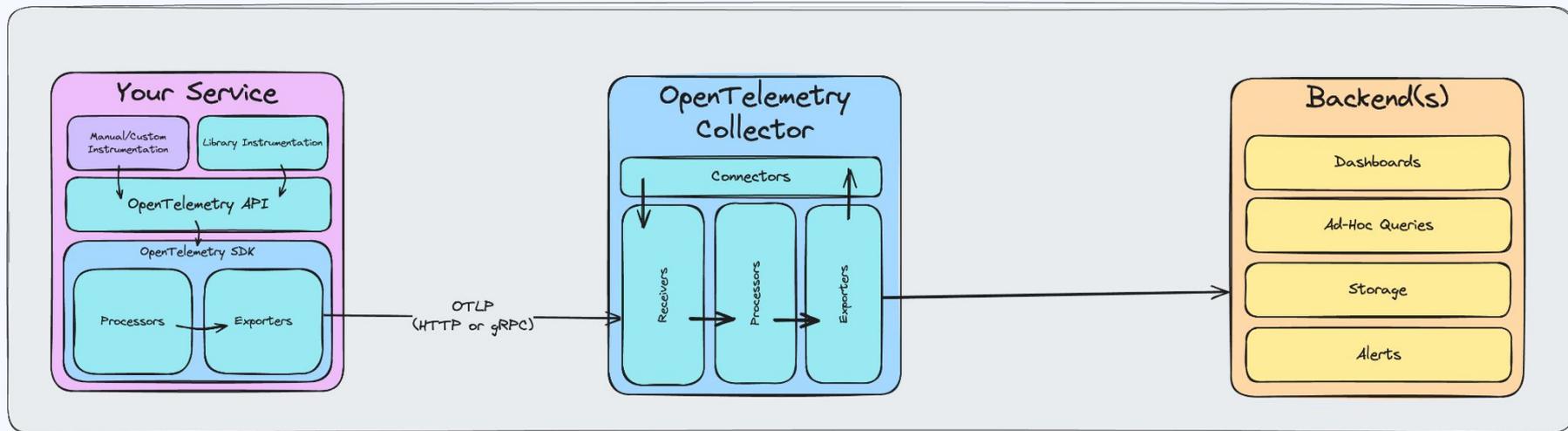
## laC

Different vendors use different Terraform providers



# **Vendor-neutral backends: a vision for the future**

# Putting it all together...



# Open-source storage, query, and UI

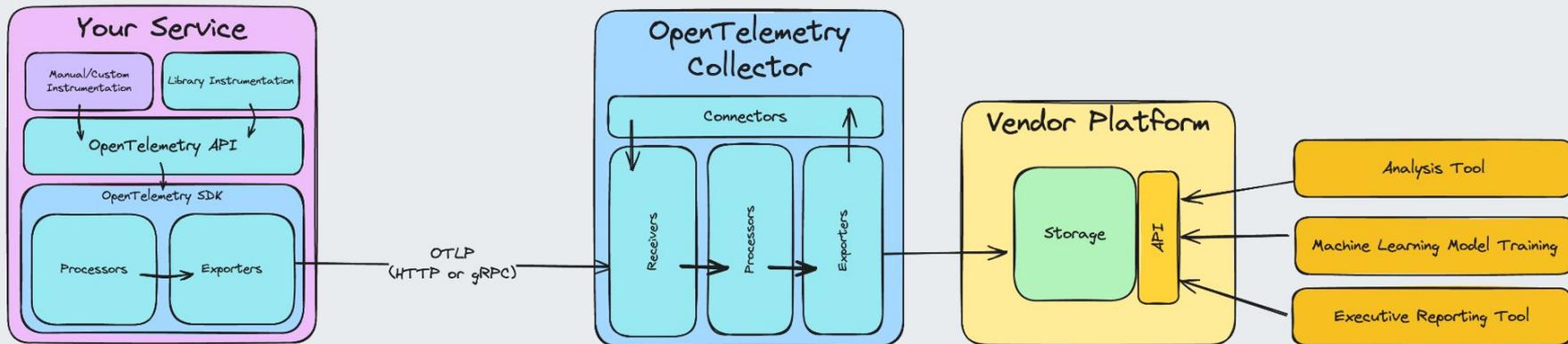
★ = under a foundation



# A Lucene Query

```
service:"recommendation"  
AND timestamp:[2025-01-01 TO 2025-12-31]
```

# What if...



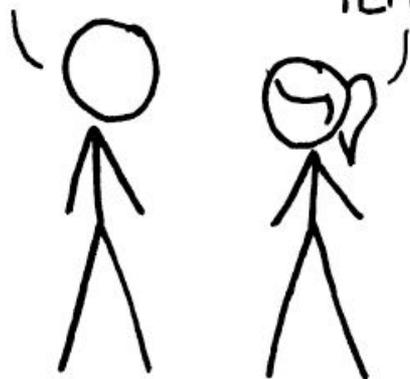
**Why is OTel  
successful?**

# HOW STANDARDS PROLIFERATE:

(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)

SITUATION:  
THERE ARE  
14 COMPETING  
STANDARDS.

14?! RIDICULOUS!  
WE NEED TO DEVELOP  
ONE UNIVERSAL STANDARD  
THAT COVERS EVERYONE'S  
USE CASES.



SOON:

SITUATION:  
THERE ARE  
15 COMPETING  
STANDARDS.

# Why is OTel successful?



## Openness

Observability begs to be open!



## Co-operation

Supported by multiple vendors, with no single vendor taking the spotlight.



## Stewardship

As a CNCF project, everyone works towards a common goal!



# How this benefits YOU!



## Portability

Change tools if you want to!



## Interoperability

Work with multiple tools if you want to.



## Choice

As OTel continues to evolve, so will your options!

**Ask meaningful  
questions**

**Get useful answers**

**Take action!**

# References & shameless self-promos



Josh's LinkedIn post on vendor neutrality



Geeking Out Podcast



Adriana's blog post on vendor neutrality



Unevenly Distributed



# Danke!



**Adriana Villela**

Principal Dev Advocate, Dynatrace  
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ClickHouse®, K8s, & OTel



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# 01

# Theory lesson

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# Introduction

Mercury is the closest planet to the Sun and the smallest one in the entire Solar System. **This planet's name has nothing to do with the liquid metal,** since Mercury was named after the Roman messenger god. Mercury's surface is filled with craters

Mercury takes a little more than 58 days to complete its rotation, so try to imagine how long days must be there! **Since the temperatures are so extreme, albeit not as extreme** as on Venus, Mercury has been deemed to be non-habitable for humans





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

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**—Someone Famous**



# Concepts



## Mercury

Mercury is the closest planet to the Sun and **the smallest one** in the Solar System—it's only a bit larger than the Moon



## Venus

Venus has a beautiful name and is the **second planet from the Sun**. It's hot and has a poisonous atmosphere

# What is this topic about?



## Mercury

It's the closest planet to the Sun and the **smallest** in the Solar System



## Venus

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



## Mars

Despite being red, Mars is actually a **cold place**. It's full of iron oxide dust

# Features of the topic

## Mars

Despite **being red**,  
Mars is very cold

## Jupiter

Jupiter is the biggest  
planet of them all

## Neptune

It's the farthest planet  
from the Sun

## Saturn

Saturn is a **gas giant**  
and has several rings



# Examples



## Mercury

It's the closest planet to the Sun and the **smallest** in the Solar System



## Venus

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



## Mars

Despite being red, Mars is actually a **cold place**. It's full of iron oxide dust

# Recommendations



## Mars

Despite being red, Mars is very cold



## Venus

Venus is the second planet from the Sun



## Neptune

Neptune is the farthest planet from the Sun



## Mercury

Mercury is the closest planet to the Sun



## Saturn

Saturn is a gas giant and has several rings



## Jupiter

Jupiter is the biggest planet of them all

# Image always reinforce the concept

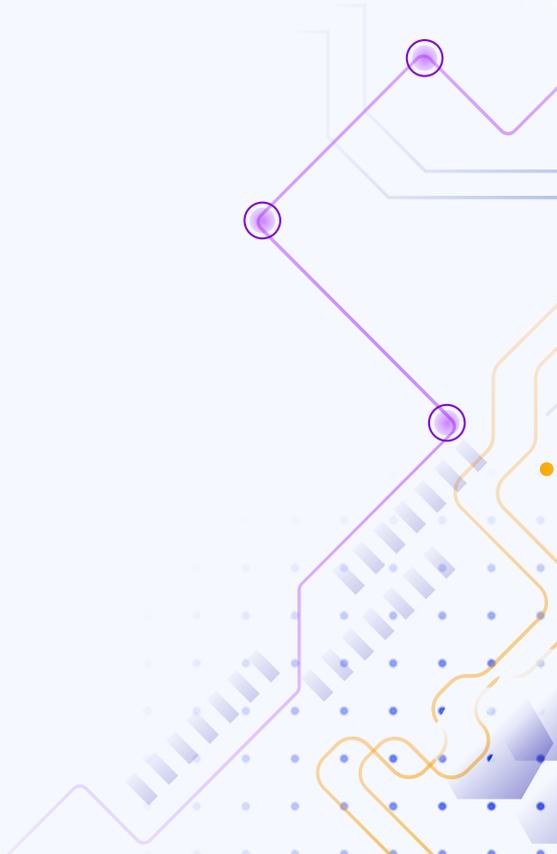
**You can give a brief description** of the topic you want to talk about here. For example, if you want to talk about Mercury, you can say that it's the smallest planet in the entire Solar System



# 4,498,300,000

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Big numbers catch your audience's attention





# 9h 55m 23s

Jupiter's rotation period

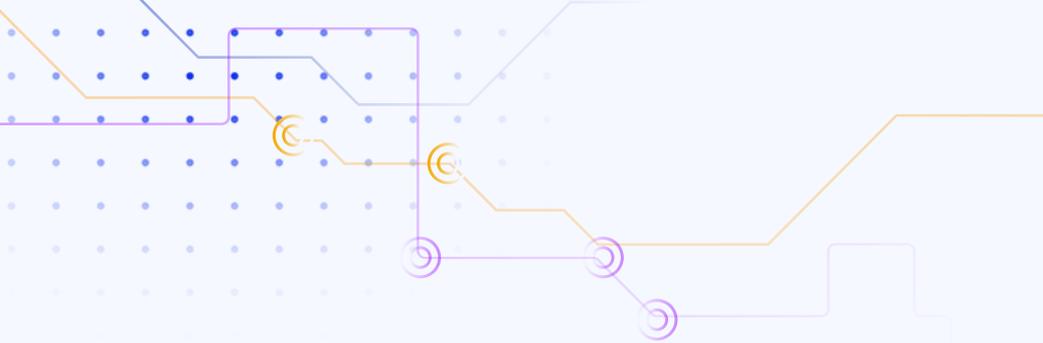
# 333,000

The Sun's mass compared to Earth's

# 386,000 km

Distance between the Earth and the Moon





# Awesome words



A woman with dark braids and large gold hoop earrings is shown in profile, focused on her work. She is wearing a blue denim shirt and is seated at a wooden desk. Her hands are on a laptop keyboard, and the screen displays a dark interface with white text, likely code or a data visualization. The background is a bright, modern office space with other desks, laptops, and coffee cups. The overall atmosphere is professional and productive.

**A picture is worth a  
thousand words**

# Practical exercise - calculator

## Objective:

Introduce participants to basic coding concepts by building a **simple calculator**

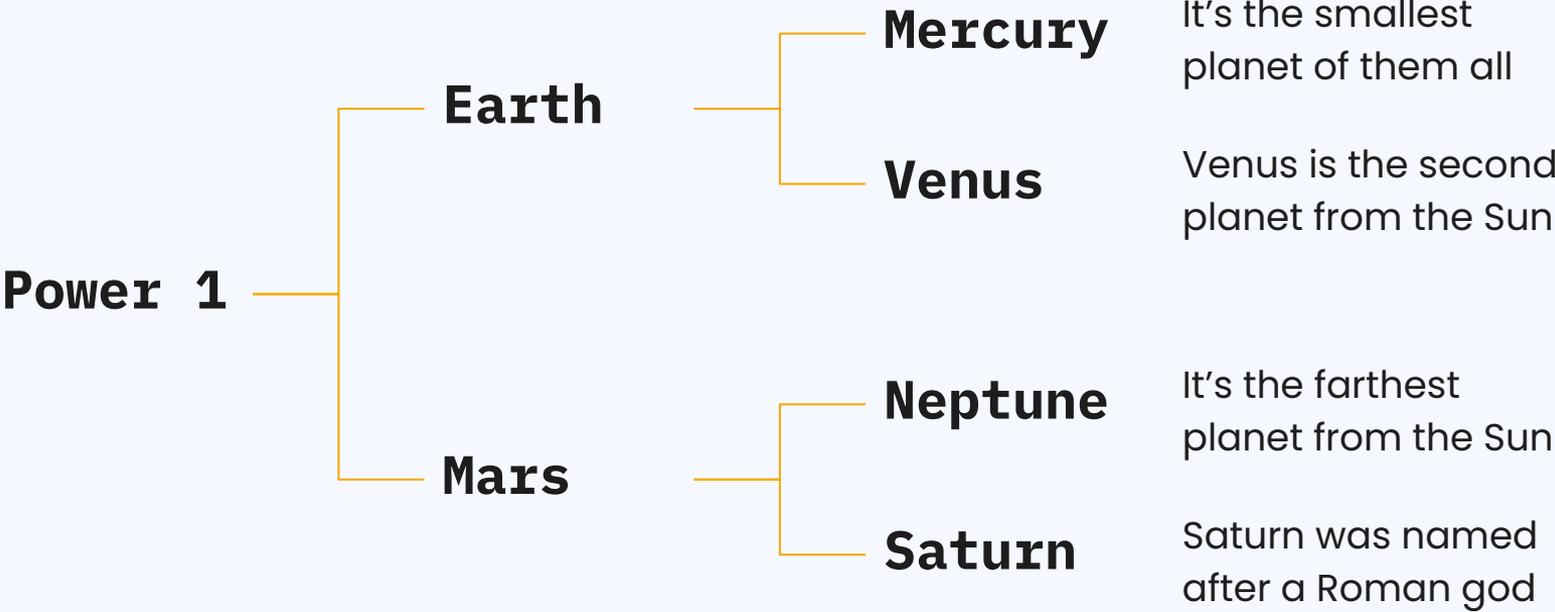
## Instructions:

1. Open a Python development environment and write the following code:

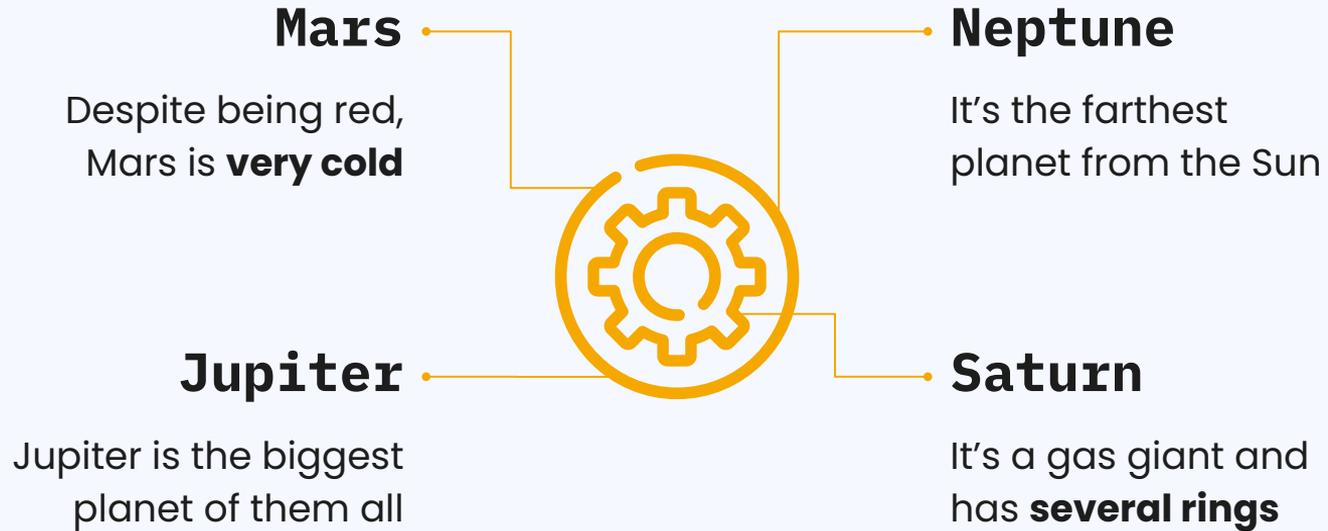
```
# Simple Calculator
num1 = int(input("Enter the first number: "))
num2 = int(input("Enter the second number: "))
print("Sum:", num1 + num2)
print("Difference:", num1 - num2)
print("Product:", num1 * num2)
print("Quotient:", num1 / num2)
```

2. Run the program and experiment with different numbers
3. Observe the output

# Brainstorm and idea generation



# Main topic and details





# Popular programming languages

**01** — **Neptune** — Mercury is the closest planet to the Sun and the **smallest** of them all

**02** — **Venus** — Venus has a beautiful name and is the **second planet from the Sun**

**03** — **Earth** — Earth is the third planet from the Sun and the only one that harbors life in the Solar System

**04** — **Saturn** — Saturn is a gas giant and has several rings. It's composed mostly of hydrogen and helium

# Sequences

Saturn is composed of **hydrogen and helium**

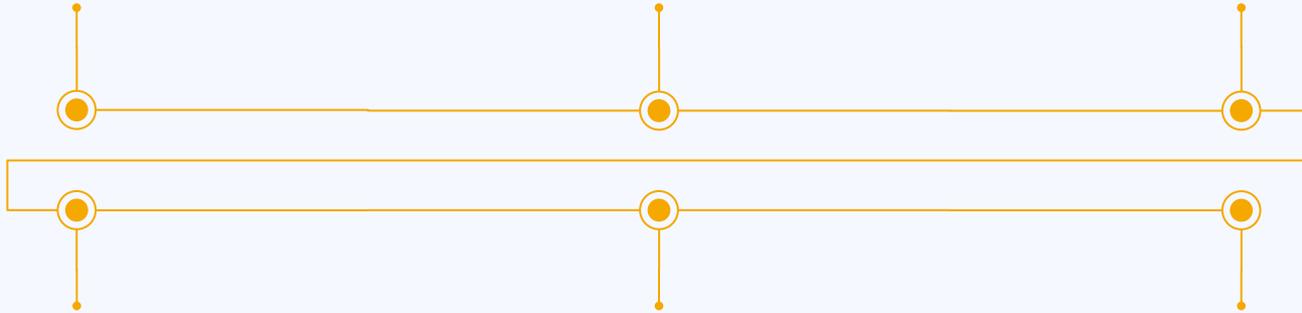
Mercury is the **closest** planet to the Sun

Jupiter was named after a Roman god

**First**

**Next**

**Next**



**Next**

**Next**

**Last**

Despite being red, Mars is **very cold**

Earth is the third planet from the Sun

Venus has extremely high temperatures

# Classification

<b>Mars</b>	<b>Venus</b>	<b>Mercury</b>	<b>Jupiter</b>
<ul style="list-style-type: none"><li>• Small</li><li>• Red</li><li>• Cold</li><li>• Rocky</li></ul>	<ul style="list-style-type: none"><li>• Small</li><li>• Hot</li><li>• Dry</li><li>• Volcanic</li></ul>	<ul style="list-style-type: none"><li>• Small</li><li>• Hot</li><li>• Rocky</li><li>• Cratered</li></ul>	<ul style="list-style-type: none"><li>• Large</li><li>• Cold</li><li>• Gassy</li><li>• Striped</li></ul>
Mars is full of iron oxide dust	Venus has high temperatures	Mercury is quite a small planet	Jupiter is a huge gas giant



# Cause and effect

**Problem**

• **Mars**

Despite being red,  
Mars is very cold

• **Venus**

Venus is the second  
planet from the Sun

**Solution**

• **Mercury**

Mercury is the closest  
planet to the Sun

• **Saturn**

Saturn is a gas giant  
and has several rings



# Question and answer

## Question

Is Mercury the closest planet to the Sun and the smallest one in the Solar System? **Note that it's a bit larger than the Moon**

## Answer

Venus has a beautiful name and is **the second planet from the Sun**. It's hot and has a poisonous atmosphere

# Step-by-step coding

01



**Earth**

It's the only planet known to **harbor life**

02



**Mercury**

Mercury is the closest planet to the Sun

03



**Jupiter**

Jupiter is the **biggest** planet of them all

04



**Saturn**

Saturn was named after a Roman god



# Parts and whole

## The whole objective

Mercury is the closest planet to the Sun and the smallest one in the entire Solar System

## Parts of the object

- Mercury
- Jupiter
- Venus
- Mars
- Earth
- Saturn
- Mercury

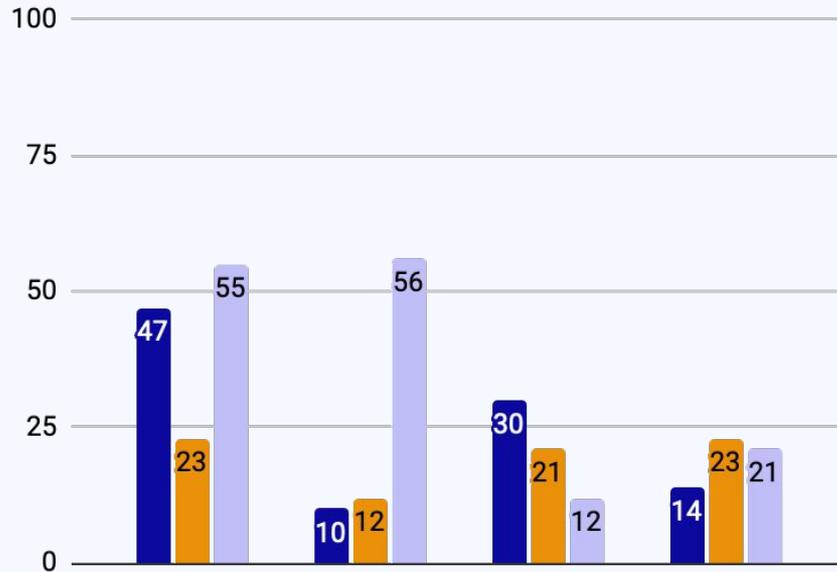
## What happens if the parts are missing?

Earth is the third planet from the Sun and the **only one that harbors life in the Solar System**

## What's the function of the parts?

Jupiter is a gas giant and the biggest planet in the Solar System

# You can use this graph



Follow the link in the graph to modify its data and then paste the new one here. [For more info, click here](#)



## Mercury

Mercury is the closest planet to the Sun



## Jupiter

Jupiter is the biggest planet of them all



## Saturn

Saturn was named after a Roman god

# This is a map

## USA

Despite being red, Mars is **very cold**

## India

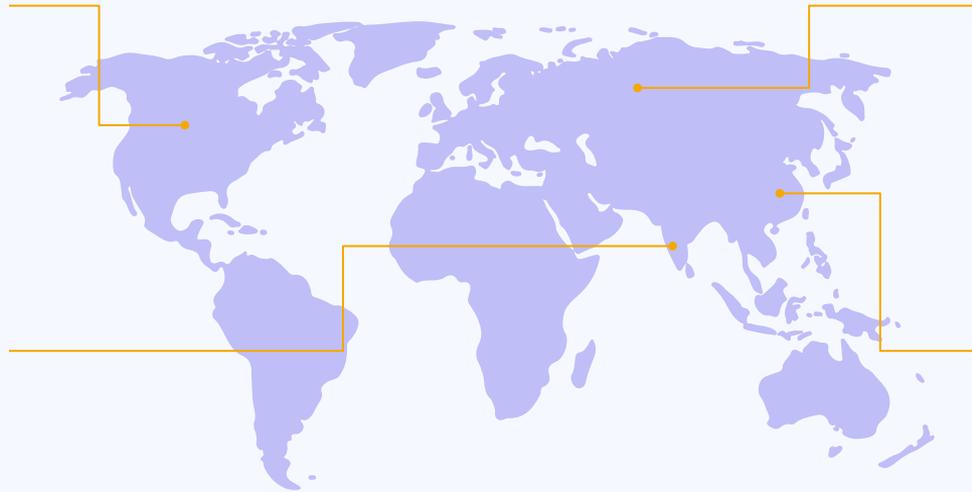
Jupiter is the biggest planet of them all

## Russia

**Neptune** is the farthest planet from the Sun

## China

Saturn is **a gas giant** and has several rings



# Mockups

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# Thanks!

Do you have any questions?

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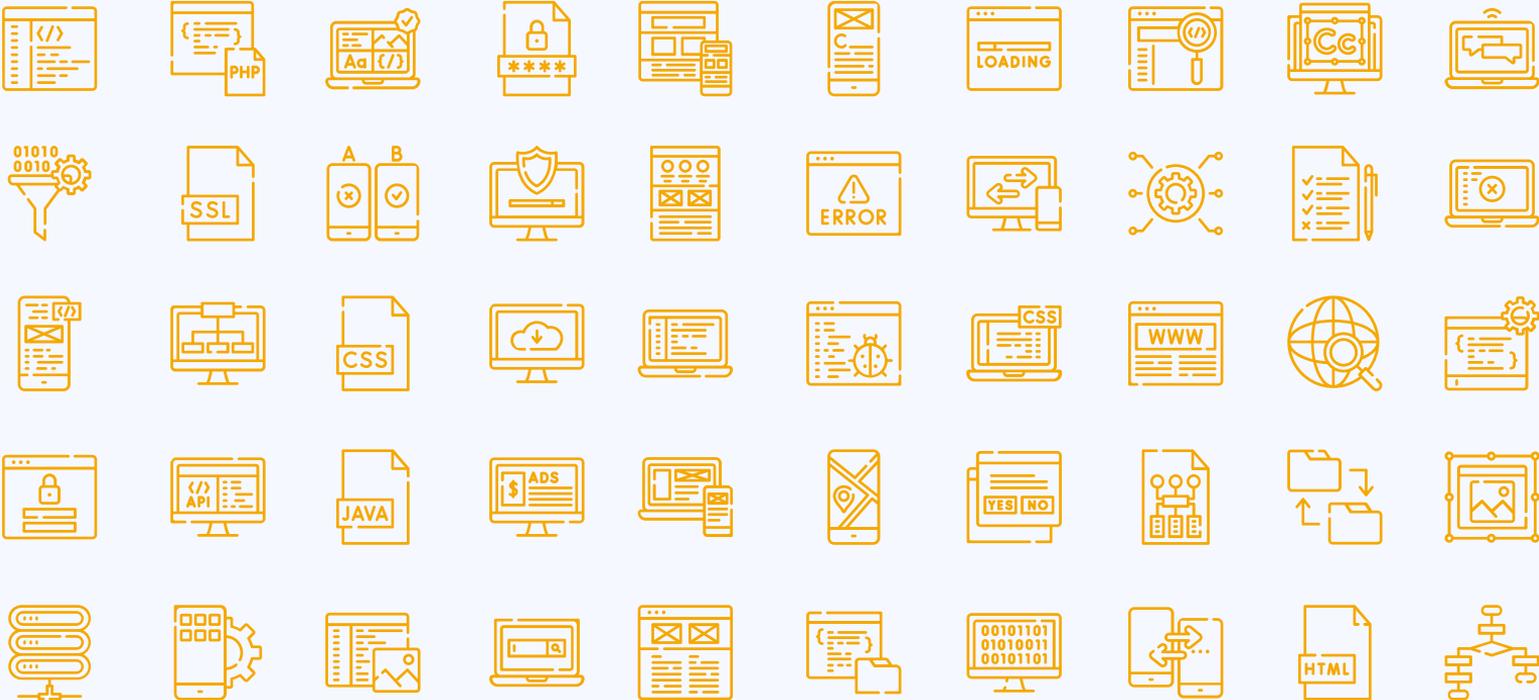
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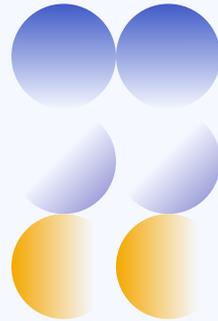
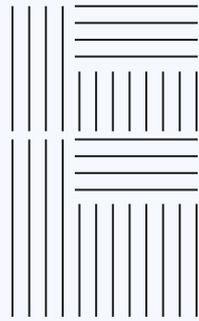
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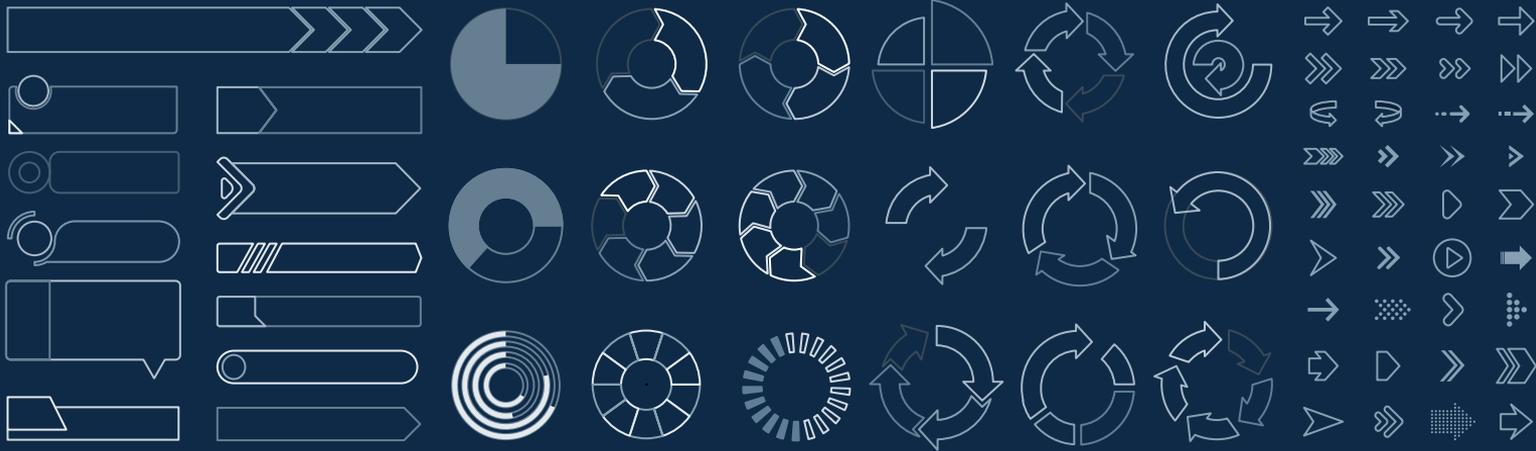
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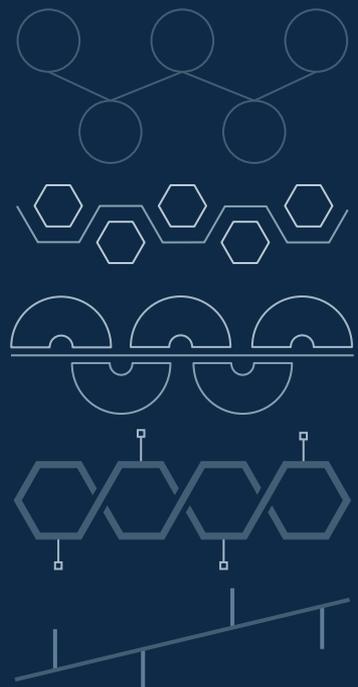
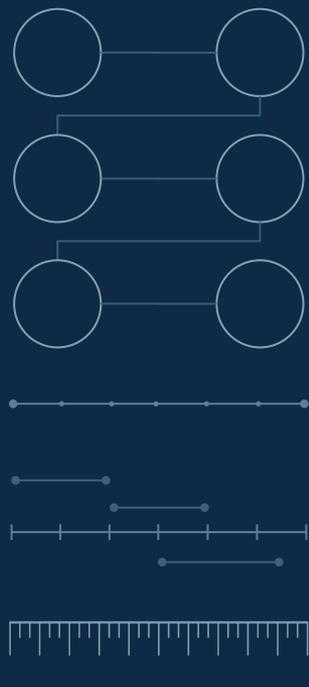
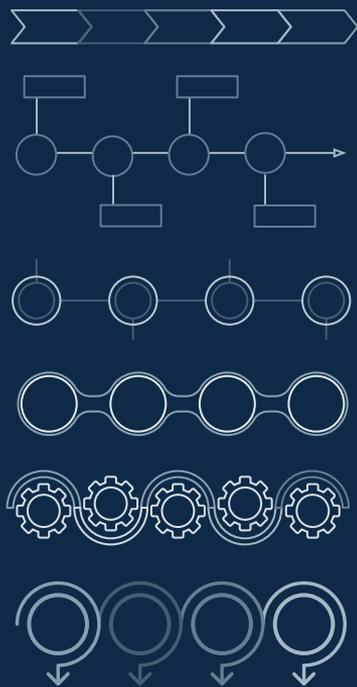
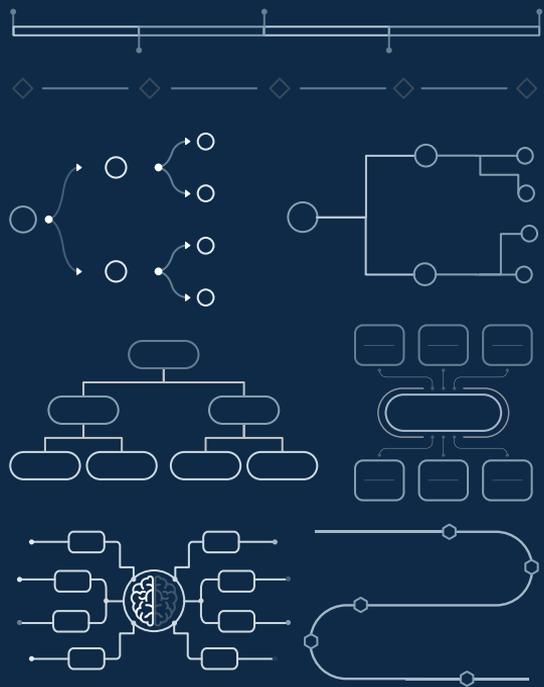
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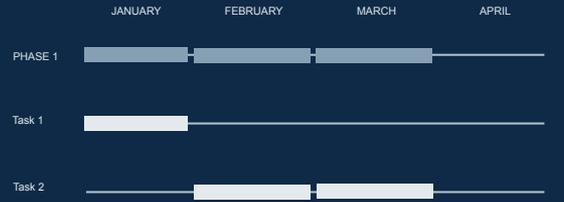
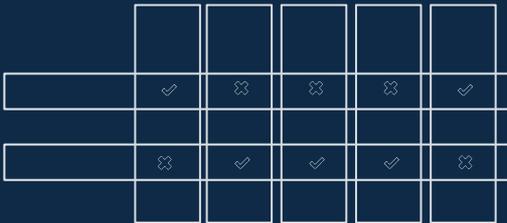
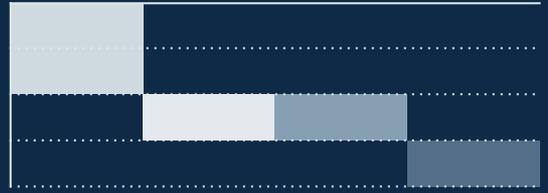
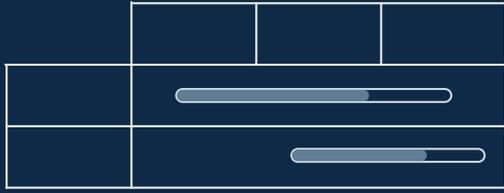
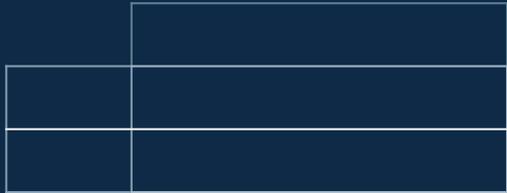
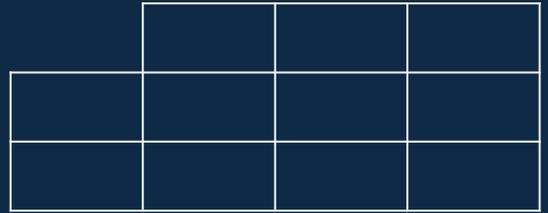
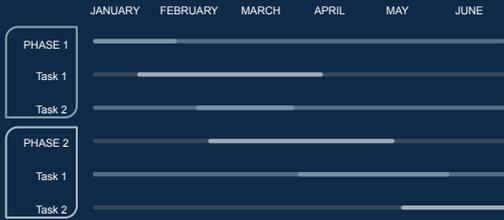
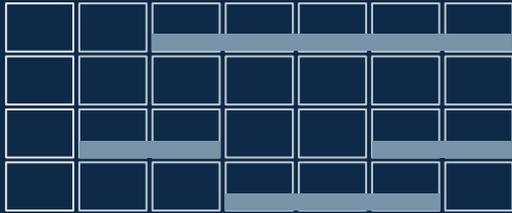
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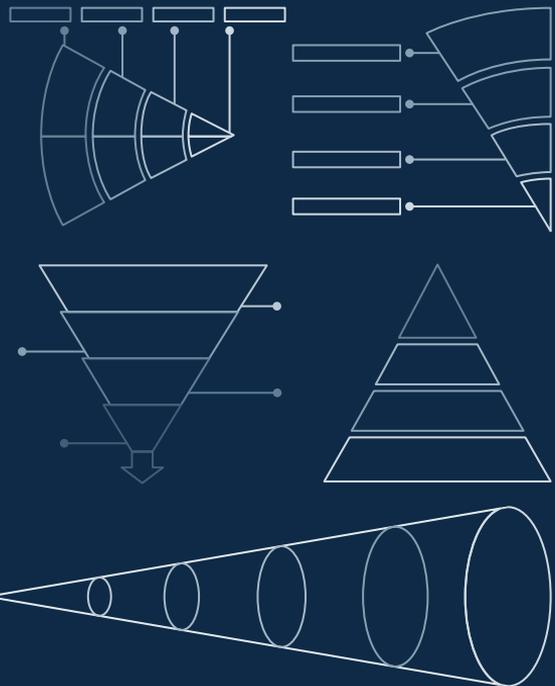
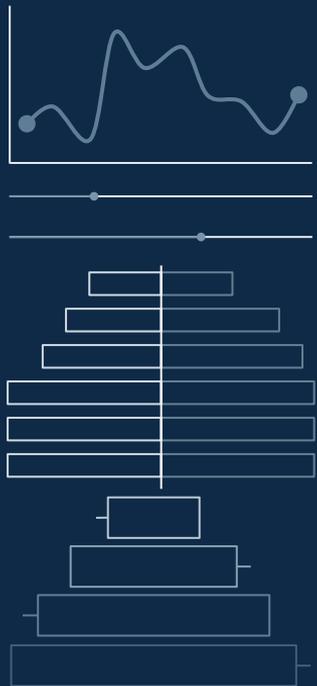
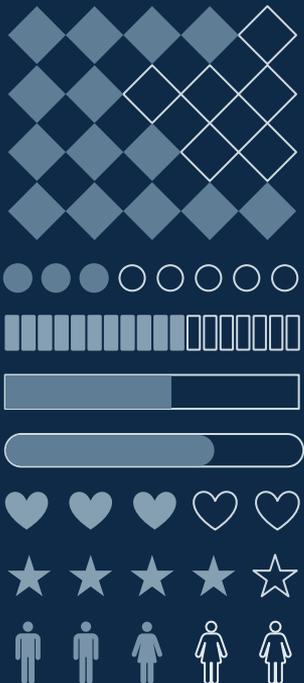
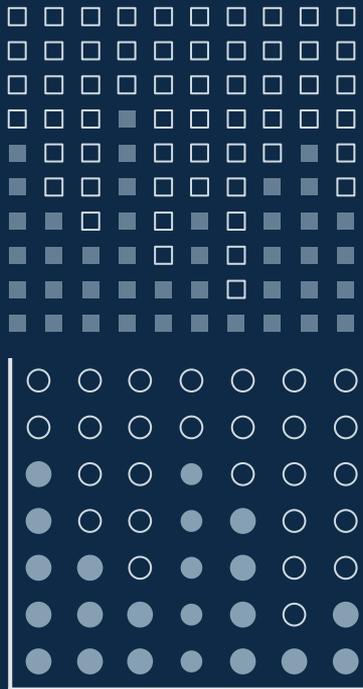












# ...and our sets of editable icons

You can **resize** these icons without losing quality.

You can **change the stroke and fill color**; just select the icon and click on the **paint bucket/pen**.

In Google Slides, you can also use **Flaticon's extension**, allowing you to customize and add even more icons.

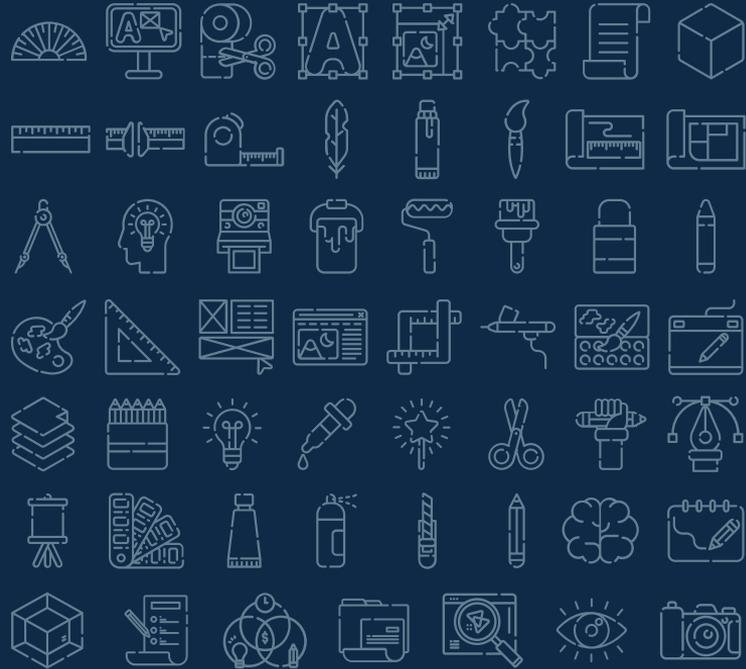








# Creative Process Icons



# Performing Arts Icons



# Nature Icons



# SEO & Marketing Icons



