

2



Python Development

01

Introduction of python

02

Python Coding

03

OPPS in python

04

Python projects



$$\cos(\theta + \varphi) = \cos(\theta)\cos(\varphi) - \sin(\theta)\sin(\varphi)$$
$$b^z = (a+b)^z$$



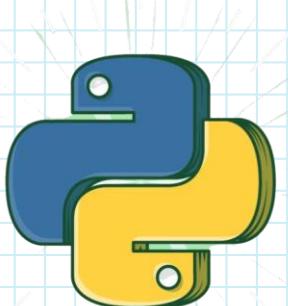
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01



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Introduction of python





Module - 1 Introduction of Python

Week-1

- Introduction of python
- Interpreter and Complier
- Advantages of python
- Dynamic typing in python
- Features in python
- Identifiers and Rules
- Variables and assigning of variables
- Keywords in python





Module - 1 Indexing in Python

Week-1

Sequence Operations in
Python.

Indexing

- Positive Indexing
- Negative Indexing

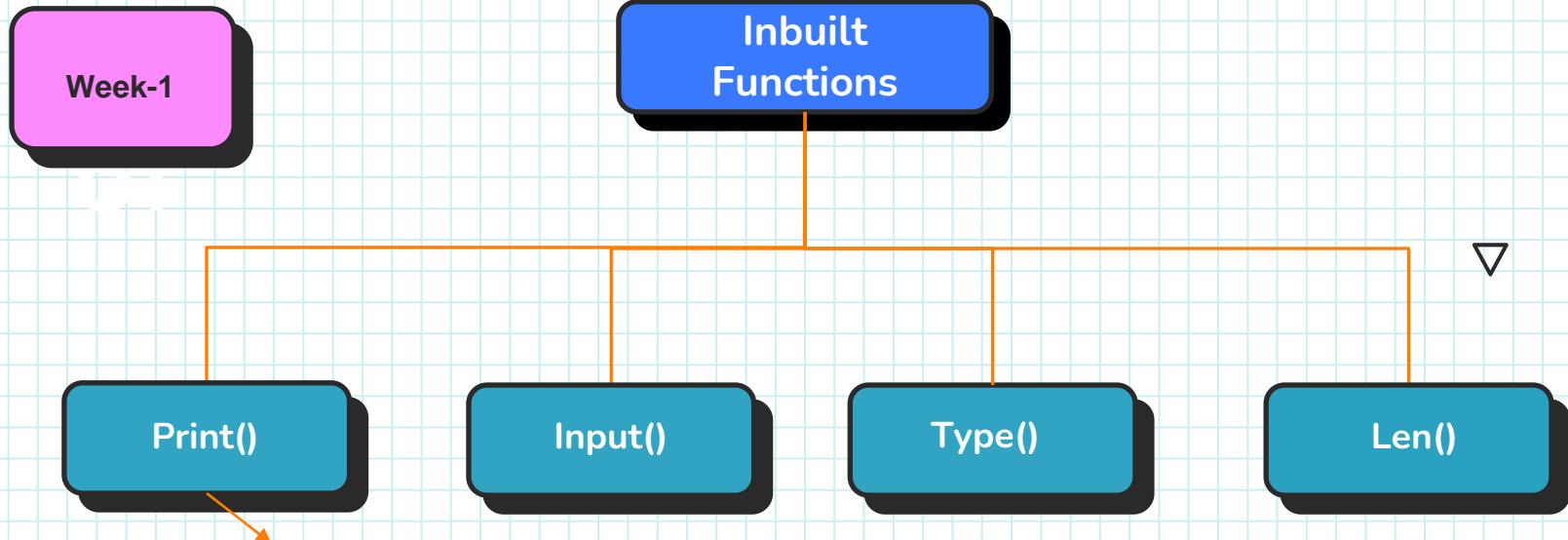


Slicing

- Positive slicing
- Negative slicing



Module -1 Datatypes in Python



- Sep
- End
- File
- Flush



Module -1 Datatypes in Python

Week-1

Data types

Individual data
types

- Int
- Float
- Complex
- Boolean

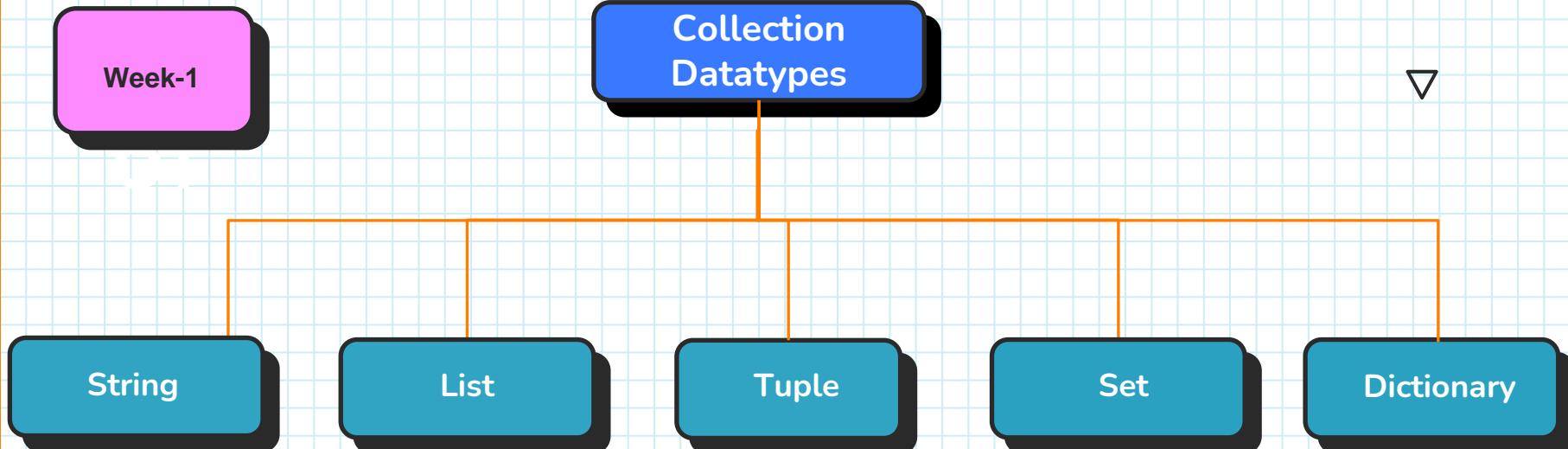


Collection data-
type

- String
- List
- Tuple
- Set
- Dictionary



Module - 1 Datatypes in Python



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Module -1 data types in python

Week-2

Strings

- Mutable and Immutable
- String methods
- F-strings



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Module -1 data types in python

Week-2

Lists

- Mutable
- List methods
- Shallow copy
- List comprehension



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Module -1 data types in python

Week-2

SETS

- Mutable
- Set methods

Dictionary

- Dictionary methods





88

Python Dictionary methods

1. Accessing and modifying Dictionary Elements

- **Clear()**

- This method is used to remove the all key-values in dictionary

```
my_dict = {"name": "John", "age": 30}
my_dict.clear()
print(my_dict) # Output: {}
```



8

Python Dictionary methods

1. Accessing and modifying Dictionary Elements

- **fromkeys()**

-This method is used to create the new dictionary with keys from keys variable in list format and value is set to value from value variable

```
keys = ['name', 'age']
values = None
mydict = dict.fromkeys(keys, values)
print(mydict)
```



8

Python Dictionary methods

2. Accessing Dictionary Elements

- **Get(key, default = None)**
 - This method is used to returns the value associated with as specific key, or default value if the key is not found

```
a = {"name":"Jhon", "age":23}
print(a.get("name"))
print(a.get("city"))
```



8

Python Dictionary methods

2. Accessing Dictionary Elements

- **Items()**
-This method is used to returns a view object of all keys-value pairs in dictionary

```
a = {"name":"Jhon", "age":23}
print(a.items())
# output
#dict_items([('name', 'Jhon'), ('age', 23)])
```



8

Python Dictionary methods

2. Accessing Dictionary Elements

- **Keys()**

- This method is used to returns all the keys in the dictionary

```
a = {"name":"Jhon", "age":23}
print(a.keys())
# output : dict_keys(['name', 'age'])
```



2

Python Dictionary methods

2. Accessing Dictionary Elements

- `values()`

-This method is used to returns all the keys in the dictionary

```
a = {"name": "Jhon", "age": 23}  
print(a.values())
```



2

Python Dictionary methods

3. Modifying Dictionary Elements:

- `popitem()`

-This method is used to removes and returns a random key-value pair from dictionary

```
a = {"name":"Jhon", "age":23}
print(a.popitem())
print(a)
```



8

Python Dictionary methods

3. Modifying Dictionary Elements:

- `setdefault(key, default =None)`
-This method is used to return the value associated with a specific keys, or sets a default value if the key is not found

```
a = {"name":"Jhon", "age":23}
print(a.setdefault("name"))
print(a.setdefault("city","bangalore"))
print(a)
```



Python Dictionary methods

3. Modifying Dictionary Elements:

- `pop(key, default =None)`
 - This method is used removes and returns the value associated with specific key

```
a = {"name":"Jhon", "age":23}
print(a.pop("age"))
print(a)
```



Python Dictionary methods

3. Modifying Dictionary Elements:

- `update(key:value)`

-This method is used to update the dictionary with key-value pairs from another dictionary or an iterable of key-value pairs

```
a = {"name": "Jhon", "age": 23}
print(a.update({"city": "bangalore"}))
print(a)
```

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Module -1 type casting

Week-2

- Number typecasting
- String type casting
- List type casting
- Sets type casting
- Dictionary typecasting



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Module -1 Operators

Week-2

1. Arithmetic operator
2. Relational operator
3. Logical operator
4. Assignment operator
5. Bitwise operator
6. Membership operator
7. Identity operator



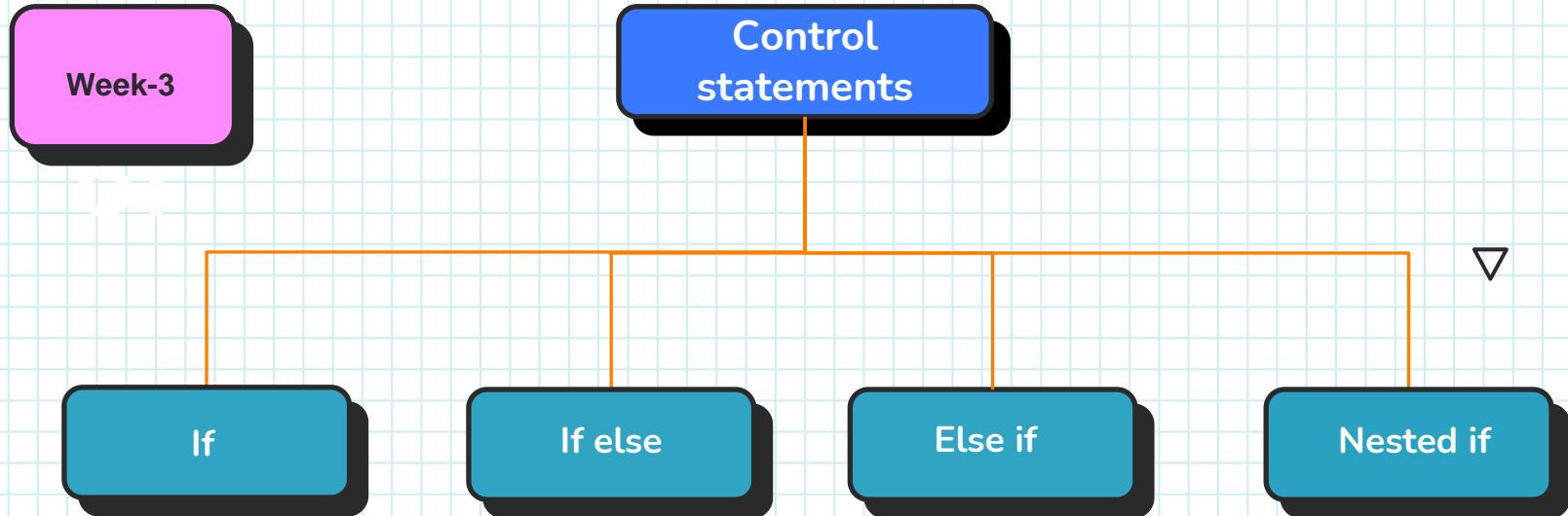
02

Python Programming



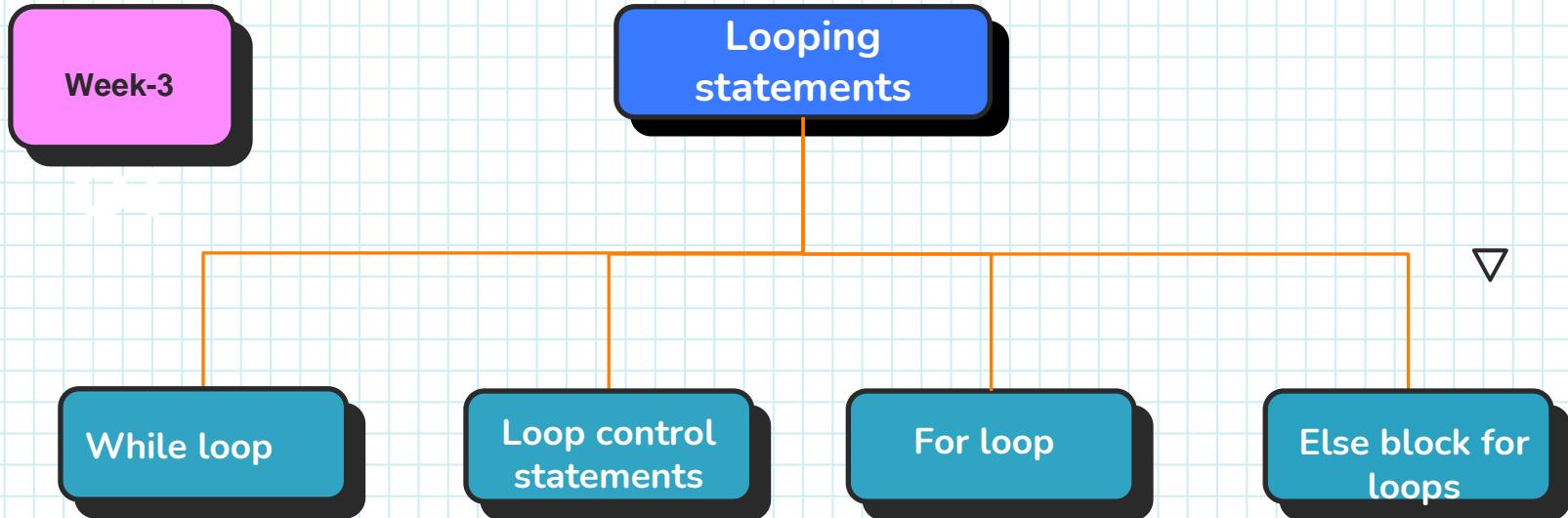


Module - 2 Control statements



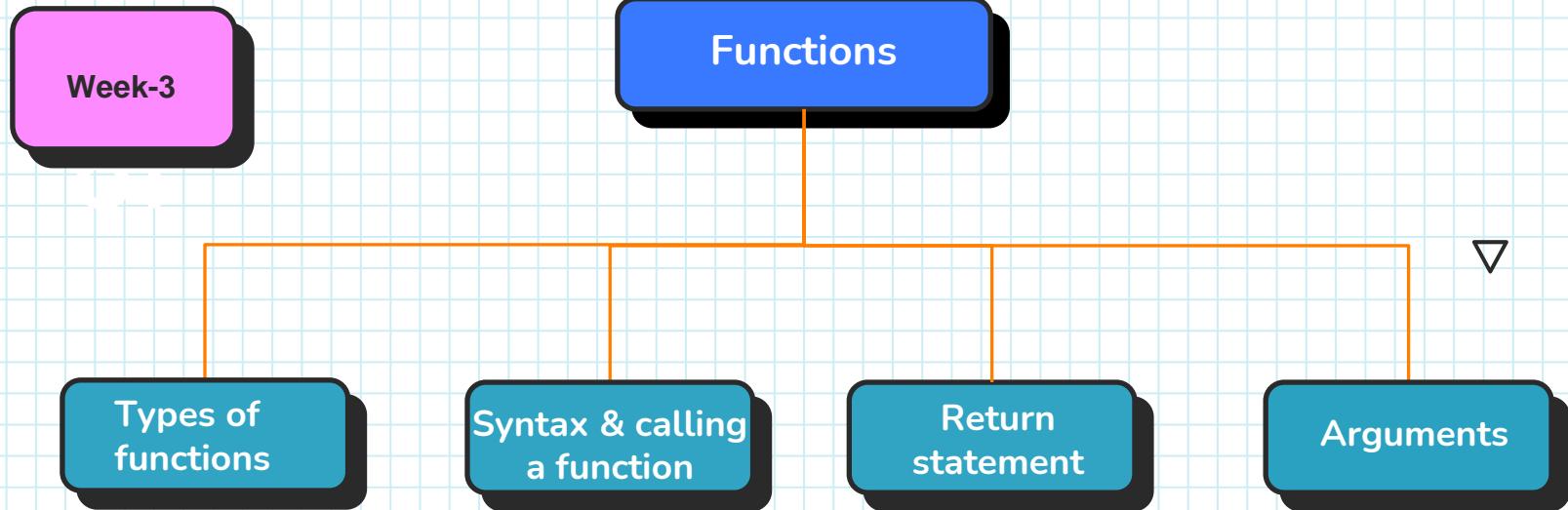


Module - 2 Looping statements



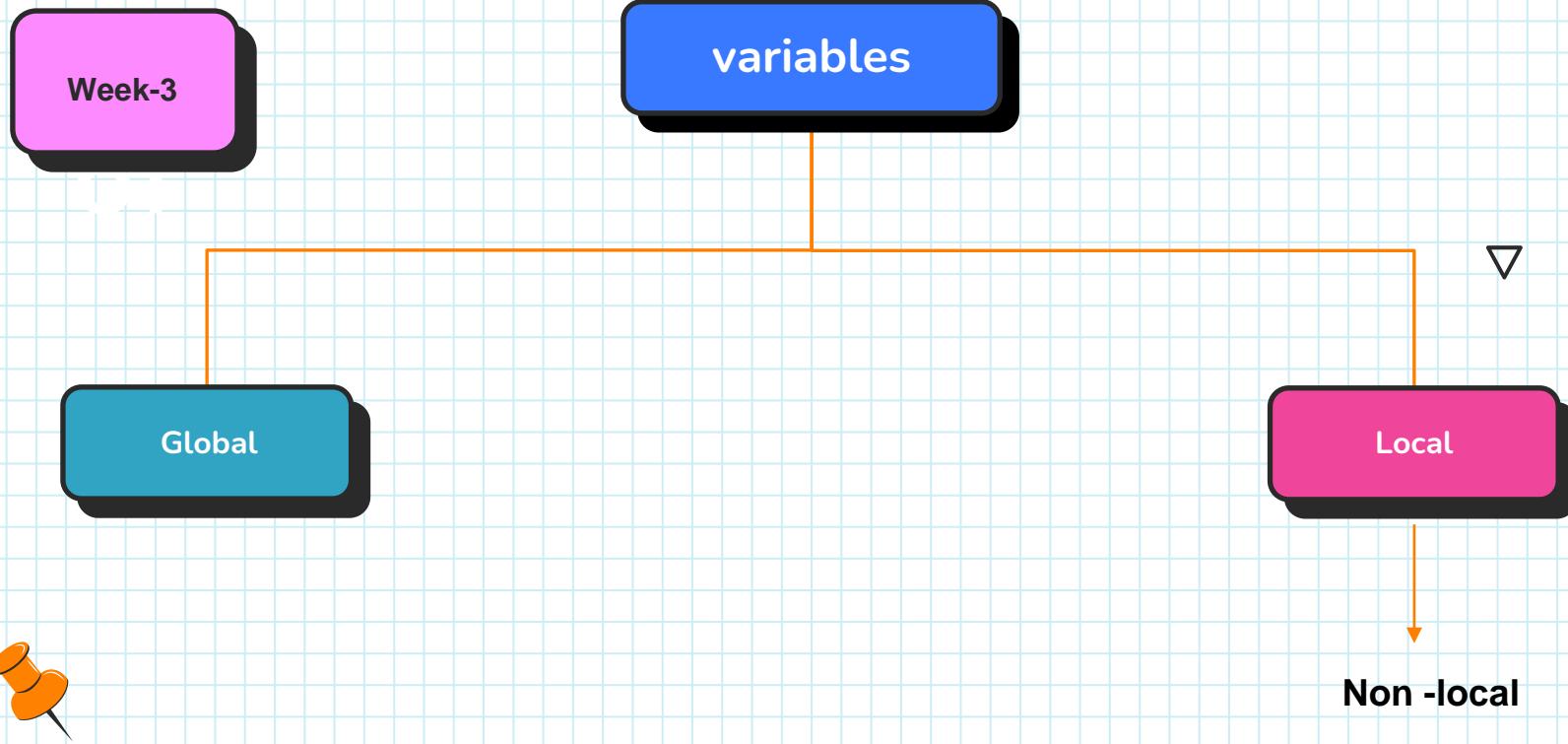


Module - 2 Functions





Module - 2 variables scopes





Module -2 Functions

Week-3

- User defined functions
- Inbuilt functions

Types of Variables

- Global variable
- Local variable

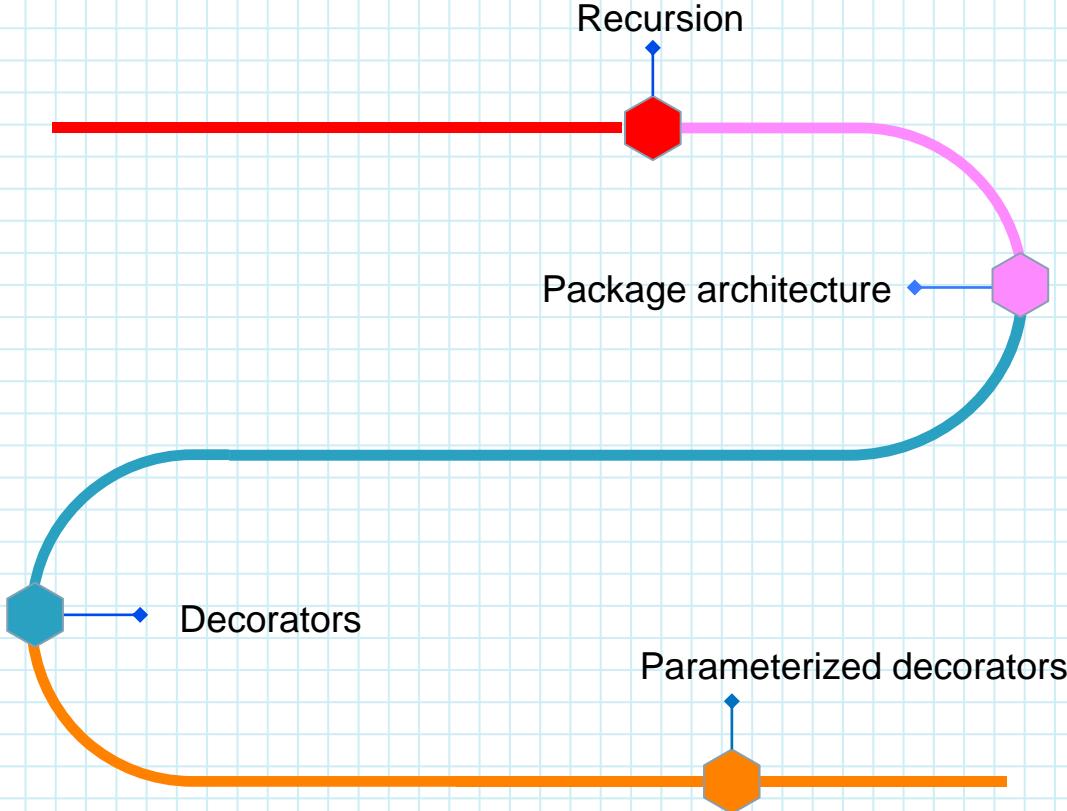
Packing

- Packing and
- Unpacking functions



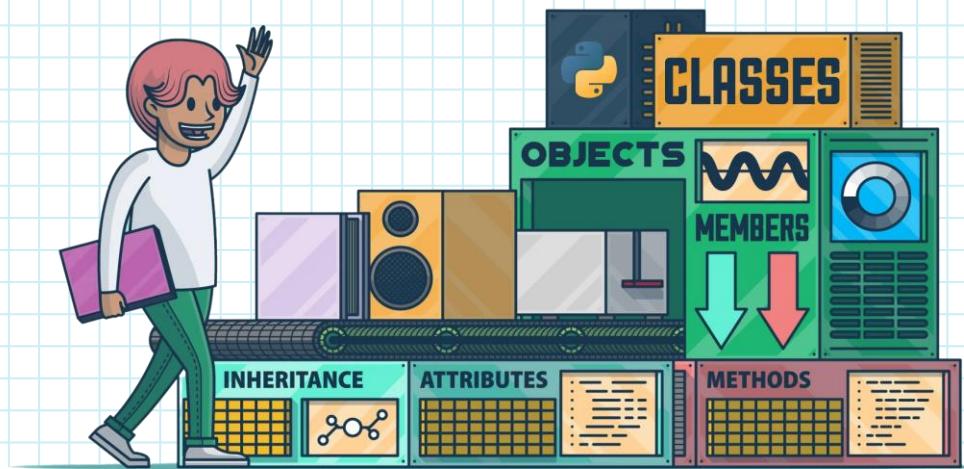


Module -2 Final topics in functions



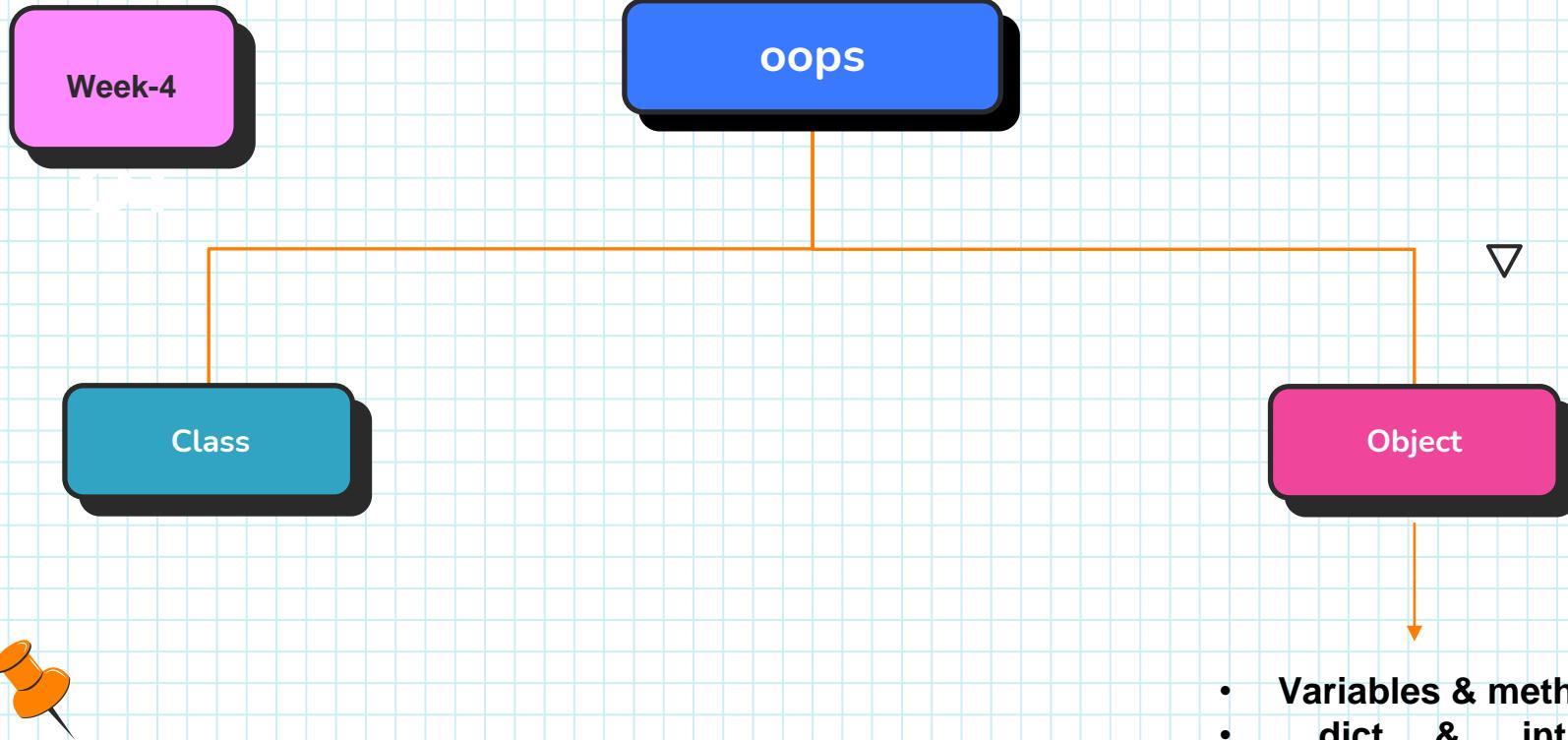
03

Python oops concepts





Module - 3 object oriented programming





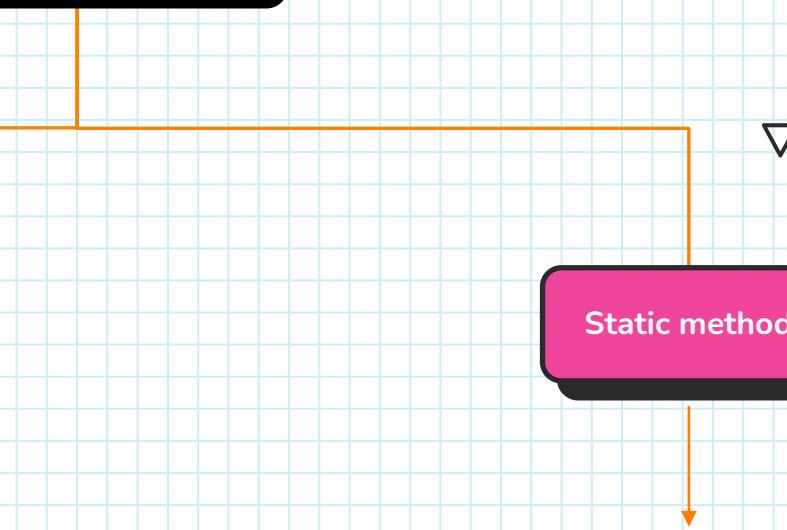
Module - 3 object oriented programming

Week-4

oops

Class method

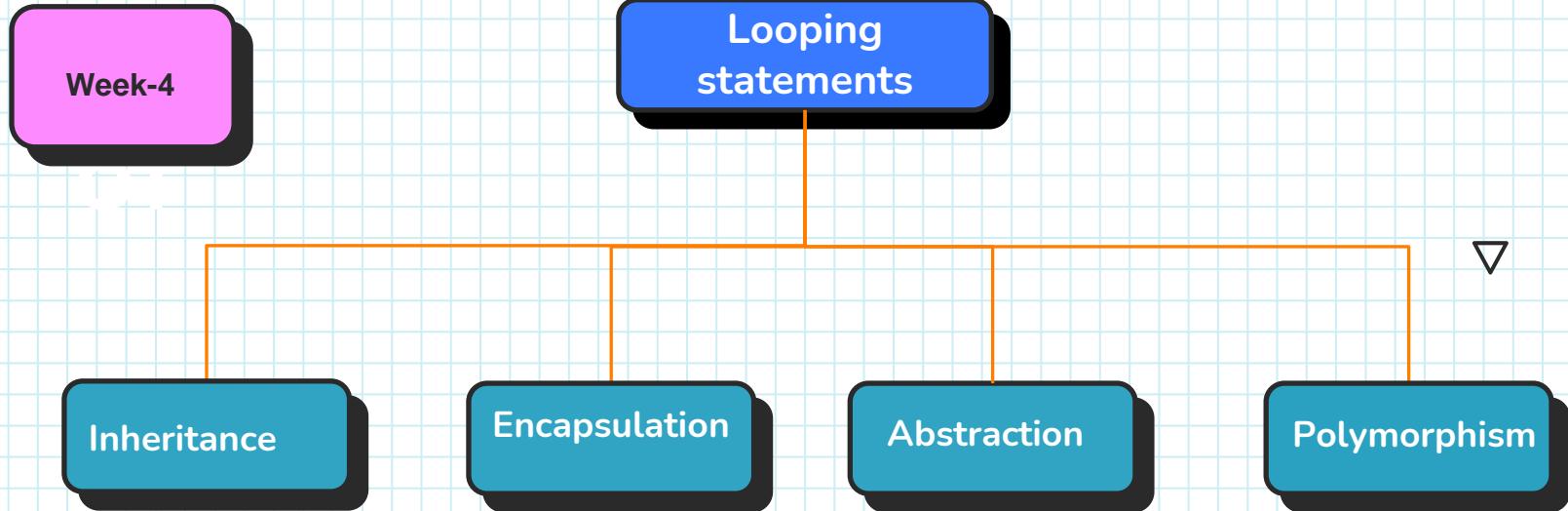
Static method



- Variables & methods
- `__dict__` & `__int__`



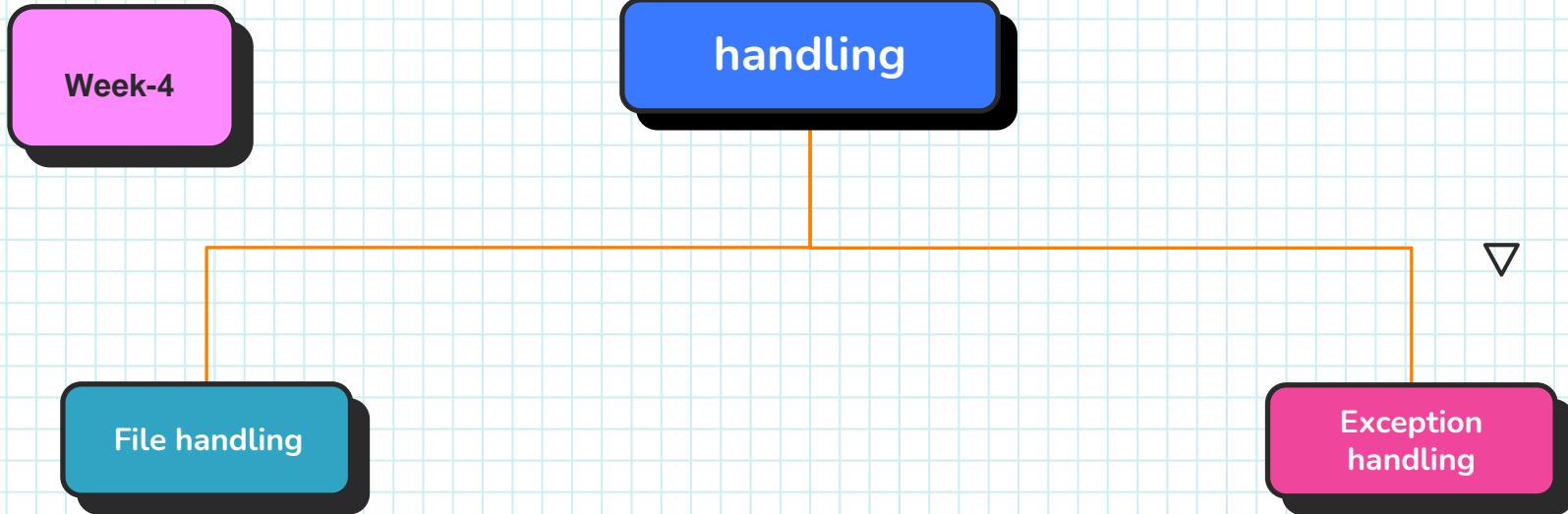
Module - 3 OOPS Pillars





Module - 3 Exception handling

File handling



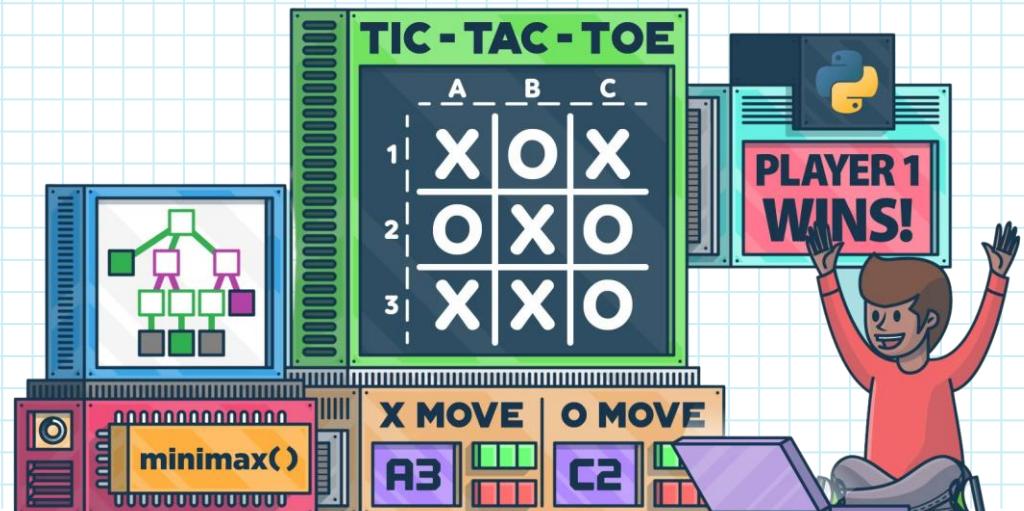
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04

Python Projects



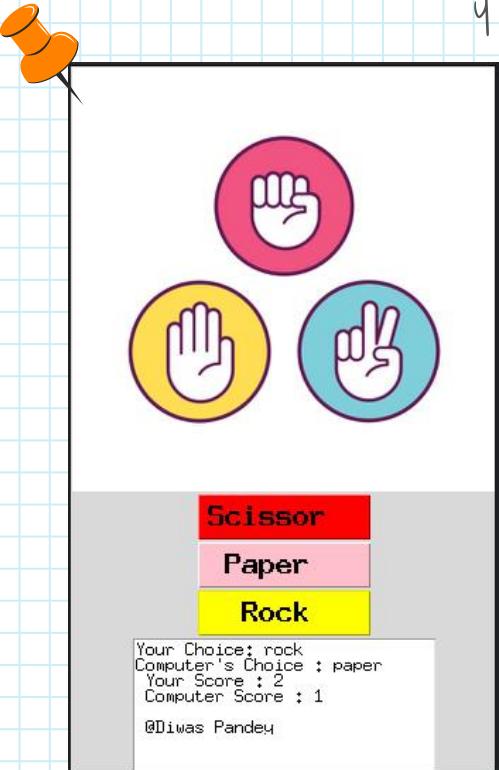
Python Project -1

Week-6

Rock paper scissor

- Rock smashes scissors.
- Paper covers rock.
- Scissors cut paper.

66

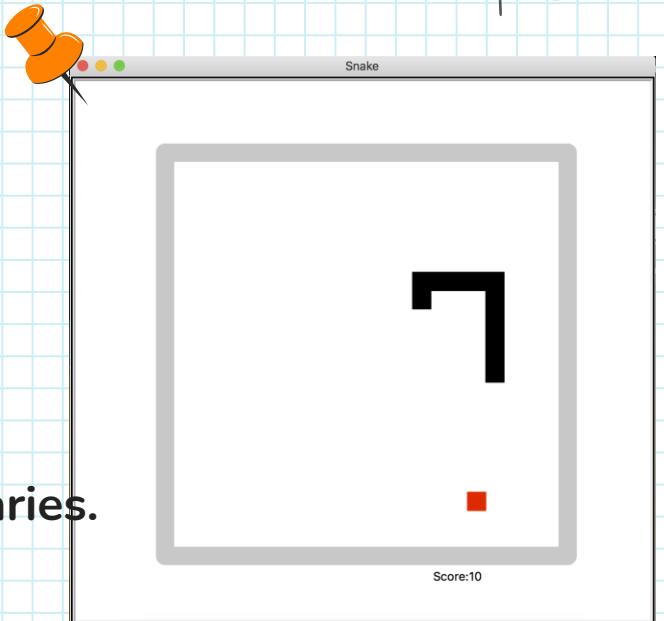


Python Project -2

Week-6

Snake game

1. Installing Pygame.
2. Create the Screen.
3. Create the Snake.
4. Moving the Snake.
5. Game Over when Snake hits the boundaries.
6. Adding the Food.
7. Increasing the Length of the Snake.
8. Displaying the Score.



Python Project -3

Week-7

Tic tac toe

- Python GUI Programming With Tkinter
- Object-Oriented Programming (OOP) in Python 3
- Python "for" Loops (Definite Iteration)
- When to Use a List Comprehension in Python
- Model-View-Controller (MVC) Explained - With Legos
- Dictionaries in Python
- How to Iterate Through a Dictionary in Python
- Main Functions in Python
- Write Pythonic and Clean Code With named tuple



x		0		x
<hr/>				
x		0		0
0		x		x

Your Turn :> 4

Game Draw

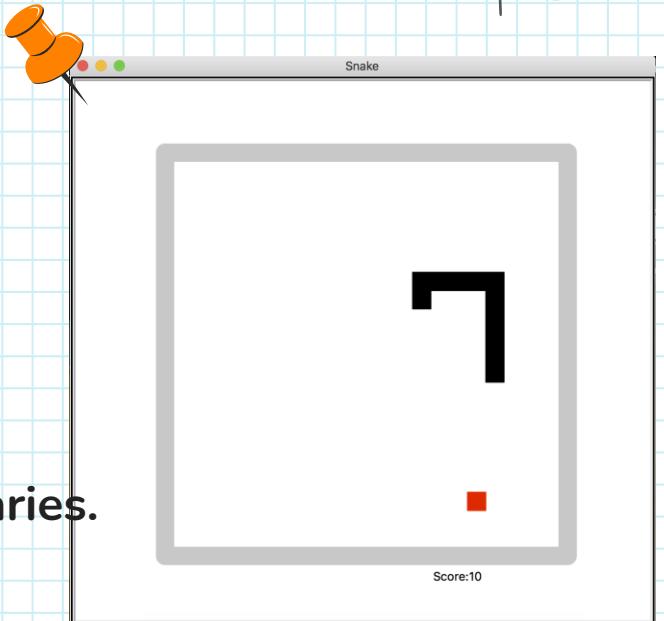


Python Project -2

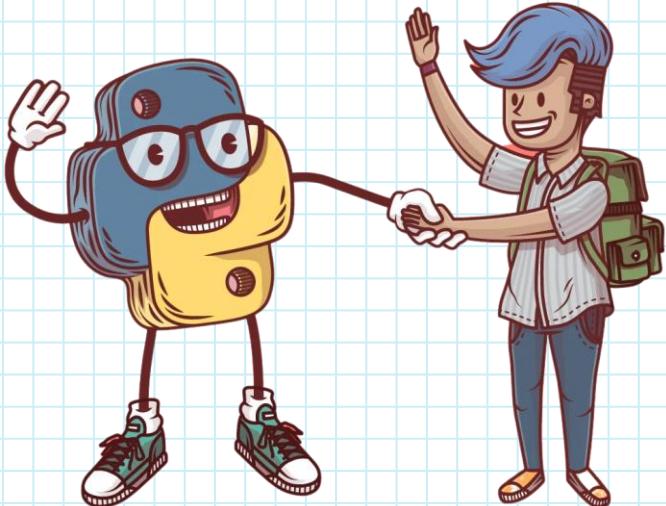
Week-7

Snake game

1. Installing Pygame.
2. Create the Screen.
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4. Moving the Snake.
5. Game Over when Snake hits the boundaries.
6. Adding the Food.
7. Increasing the Length of the Snake.
8. Displaying the Score.



That it now your are pro python
programmer



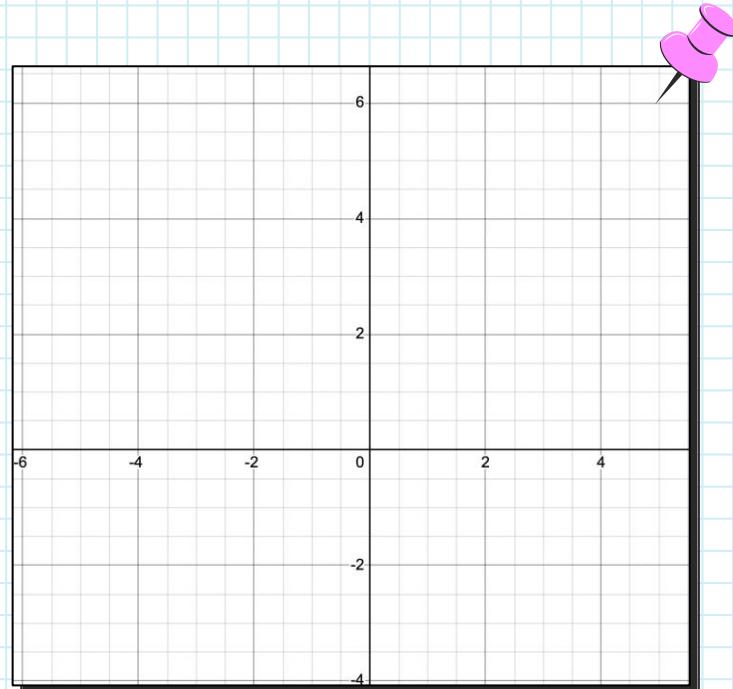
$$\sin x = 2 \times \text{trig} x - \text{abs} x - 2 p$$

$$d = \frac{x}{a} = \sqrt{1 \times (a+b)}$$

An introduction!

In algebra and geometry, we usually work with the coordinate plane, which is composed of the x (horizontal) and y (vertical) axes. We can map coordinates with a pair of values (x, y)

The slope is the average rate of change between 2 points (calculated as change in y divided by change in x)



2

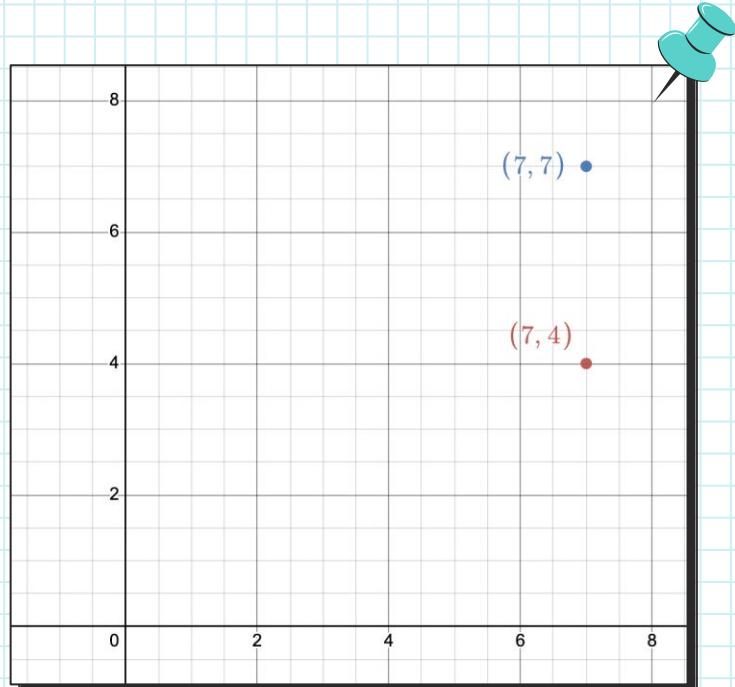


$$d = \frac{x}{a} = \sqrt{1 \times (a+b)}$$

An introduction!

If we had to find the distance between $(7, 4)$ and $(7, 7)$, we try to find the slope and find that there is no change in x , so there's no slope

Since there's no change in x , we just subtract the change in y and get 3 as the distance



6

$$\sin x = 2 \times \pi x - \text{also } x = 2\pi$$

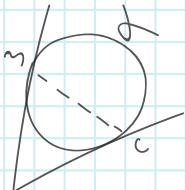


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$$f(a) = \frac{1}{2\pi i} \oint_{\gamma} \frac{f(z)}{z-a} dz$$

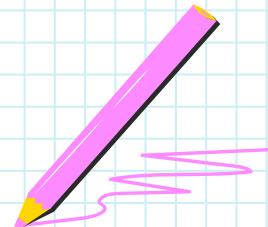
What happens when you want to find the distance between 2 points that have a change in y and a change in x?

This is where the distance formula comes in

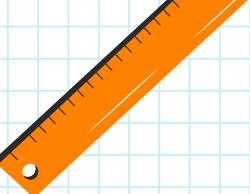


$$\cos(\theta + \varphi) = \cos(\theta)\cos(\varphi) - \sin(\theta)\sin(\varphi)$$

$$b^2 = (a+b)^2$$



$$d = \frac{x}{a} = \sqrt{1 + (a+b)}$$

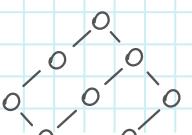


$$\sqrt{\frac{1}{N} \sum_{i=1}^N (x_i - \mu)^2}$$

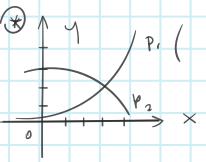


The distance formula and how it is constructed and used

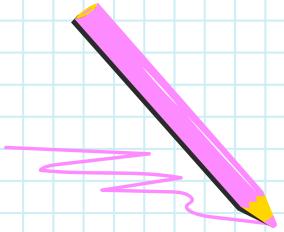
Distance formula



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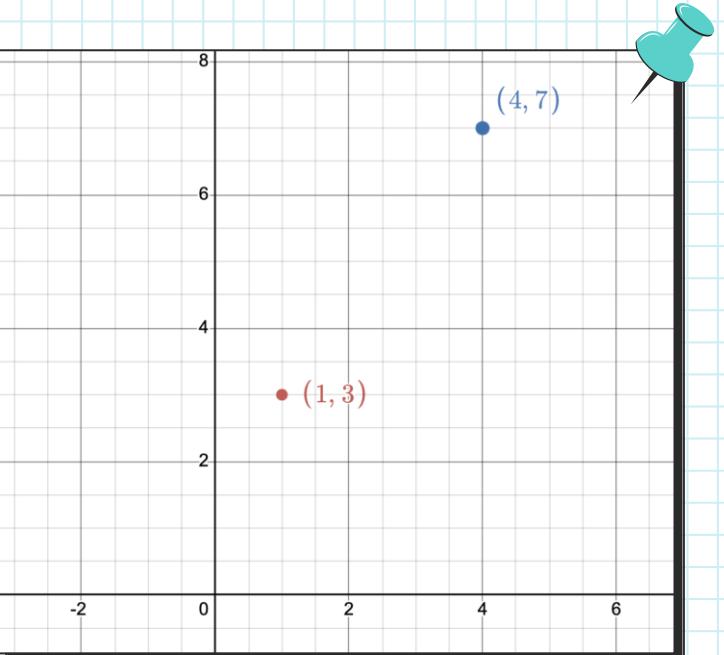


The distance formula



$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Let's say we have two points: (1, 3) and (4, 7). Let's represent them both on the coordinate plane



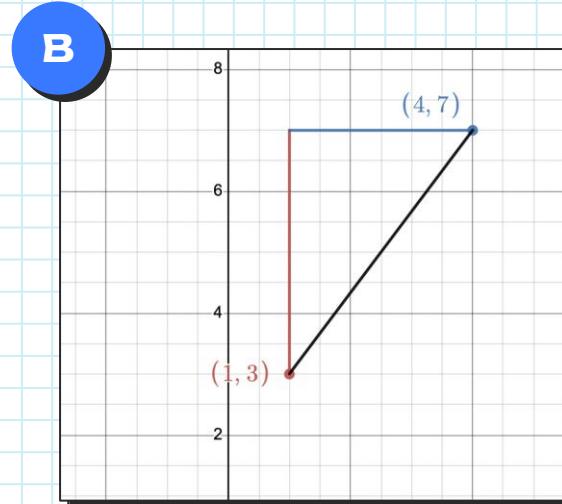
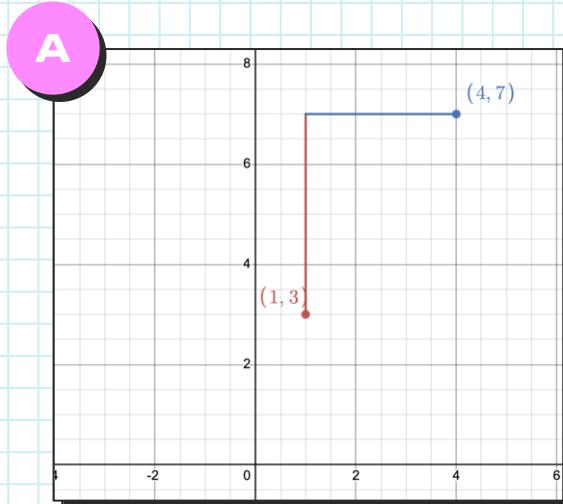
8

$$\sqrt{1 \times (a+b)}$$

20

The formula

Do this on your own paper: Slope can be represented using rise over run, so sketch the rise and run by drawing a line up and across. Next label what the rise and the run are



$$y = 2 \times \pi \times s + \pi s^2$$



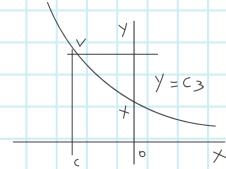


The distance formula

A

We can see that the rise is 4 and the run is 3. We could trace those and say that the distance is 7, but there is actually a shorter distance, which is the direct diagonal between these 2 points

The shortest distance between 2 points is always a straight line and, in our case, it's a diagonal. When questions ask for you to find the distance, they most likely always mean the shortest distance

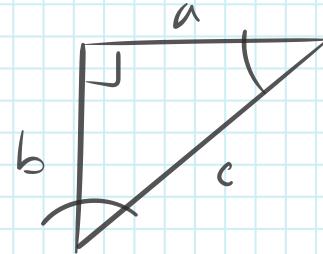


2



$$\sin x = 2 \times \frac{y}{r} \times x - \frac{ab}{c^2} \times c^2 p$$

B

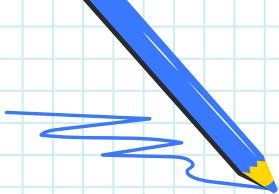


We now have a right triangle with 2 legs of 4 and 3, and a hypotenuse that is unknown. We need to find it, and we can use the Pythagorean theorem, which is $a^2 + b^2 = c^2$ (a and b are the legs and c is the hypotenuse)

When we square the legs and add them, we get $4^2 + 3^2 = c^2$ which equals $25 = c^2$. We get C by taking the square root of 25, which is 5. 5 is the hypotenuse and the distance

2

$$E = mc^2$$

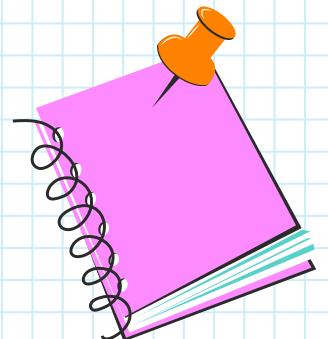
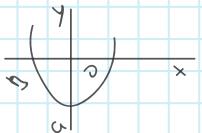


$$d = \frac{x}{a} = \sqrt{1 \times (a+b)}$$

27

Pythagorean theorem

$$\sin x = 2 \times \pi \times x - ab \times c^2 p$$





Pythagorean theorem

01

We used the Pythagorean theorem, but let's change a few things in our formula so that we can just plug in values

$$x = 1 \quad So \approx 0$$

02

a^2 was just the square of our rise, which is change in y. Replace a with $(y_2 - y_1)$. b^2 is the square of our run (change in x). Replace b with $(x_2 - x_1)$. Now we have:

03

We want the distance, not distance squared, so we take the square root of both sides, and... that's the distance formula!



$$d = \sqrt{x^2 + y^2}$$

2

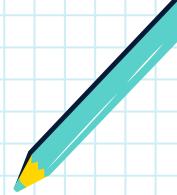
$$d = \frac{x}{a}$$



The distance formula!

$$\left\{ d = \sqrt{(y_2 - y_1)^2 + (x_2 - x_1)^2} \right.$$

Now that you know where this formula comes from, you will never forget it. Use the distance formula to find the shortest distance between any two points!

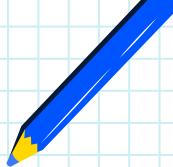


$$\cos(\theta + \varphi) = \cos(\theta)\cos(\varphi) - \sin(\theta)\sin(\varphi)$$

$$b^z = (a+b)^z$$

$$f(a) = \frac{1}{2\pi i} \oint_{\gamma z-a} f(z) dz$$

$$\sin x = 2 \times \pi x - \text{abs } x = 2 p$$



202

Thanks!

Do you have any questions?

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yourwebsite.com

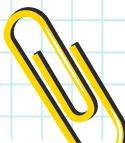
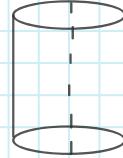


$$k = 1 \quad \text{so } 0$$

$$f(a) = \frac{1}{2\pi i} \oint_{\gamma} \frac{f(z)}{z-a} dz$$

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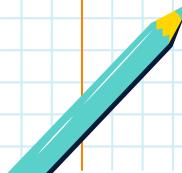
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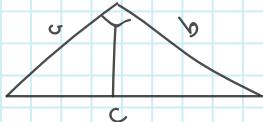
- Realistic math chalkboard background

$$x = \frac{x^2 + \sqrt{8^3}}{\sqrt{1 - (\frac{x}{2})}} \quad d = \frac{x}{a} = \sqrt{1 \times (a+b)}$$

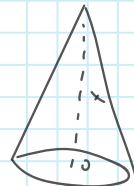
$$R \supset J \quad y = a + b$$



$$-f(x, s, a, b)$$

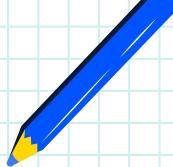


$$y_i + l = y_i + \left(\frac{x_n}{2}\right)(a - y_i^2)$$



$$\begin{array}{ll} y=b & \sin(-x) \\ b>0 & \sin(x) \\ b<0 & \cos/x \end{array}$$

Resources

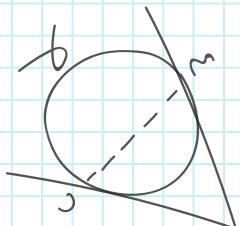
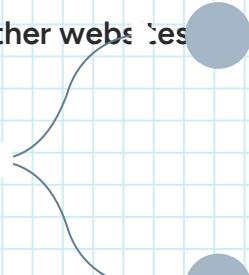
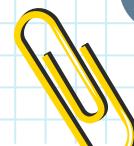


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Figtree

(<https://fonts.google.com/specimen/Figtree>)

#2a2a2a

#ffffff

#ceeeef

#ffd600

#ff8100

#3879ff

#fe8aff

#b7b7b7

#59d1ca

Storyset

Create your Story with our illustrated concepts. Choose the style you like the most, edit its colors, pick the background and layers you want to show and bring them to life with the animator panel! It will boost your presentation. Check out [how it works](#).



Pana



Amico



Bro



Rafiki



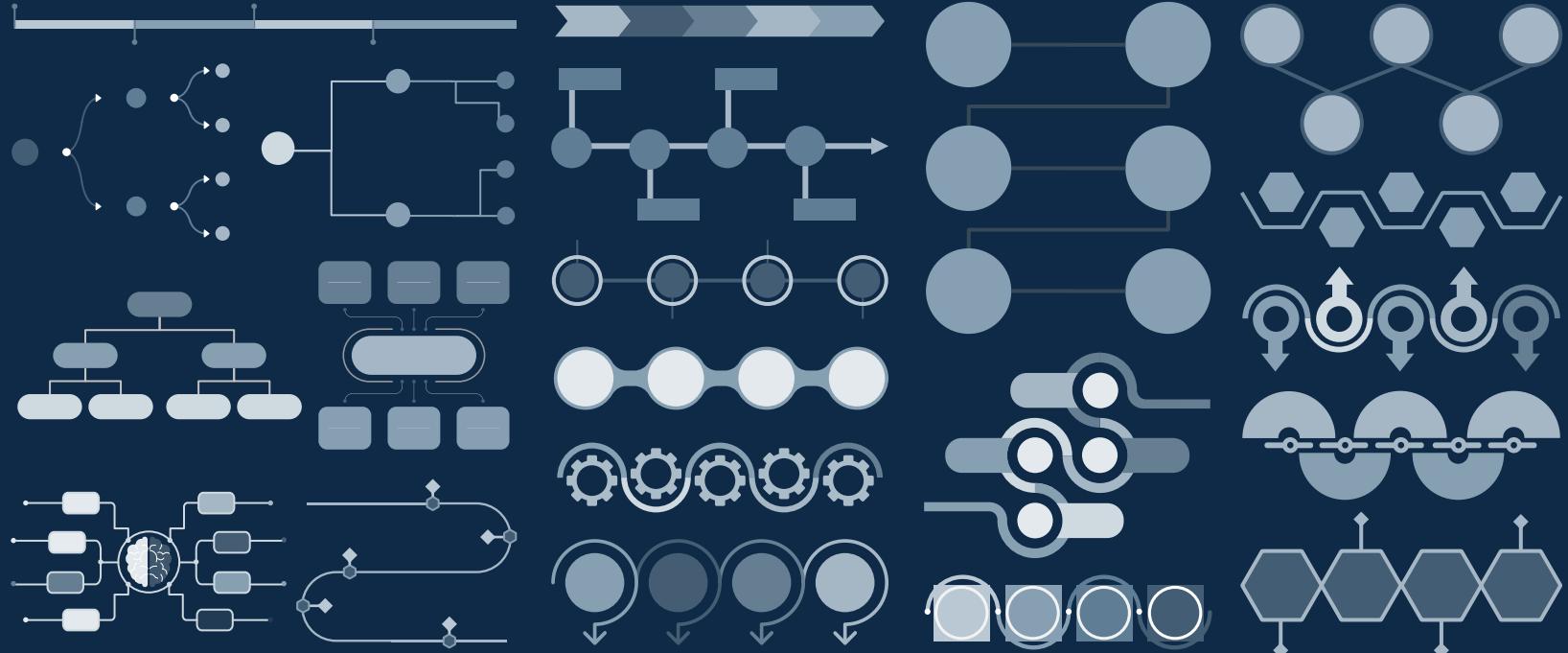
Cuate

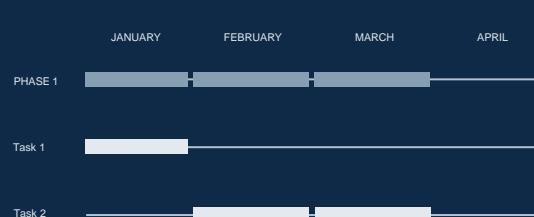
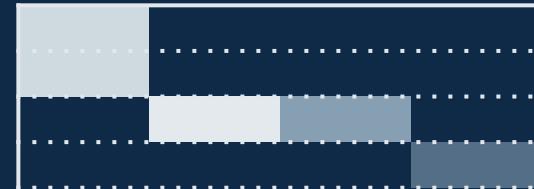
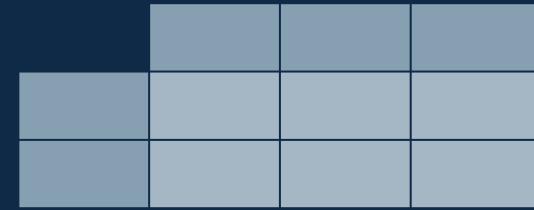
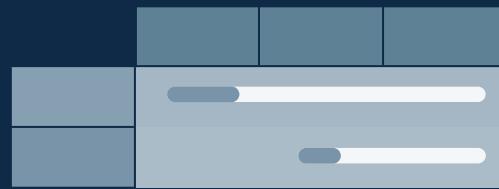
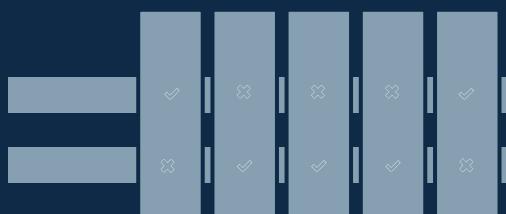
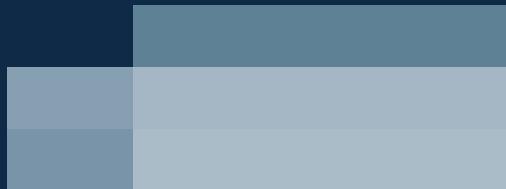
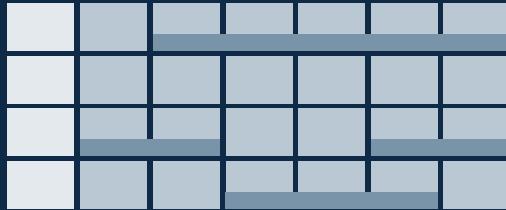
Use our editable graphic resources...

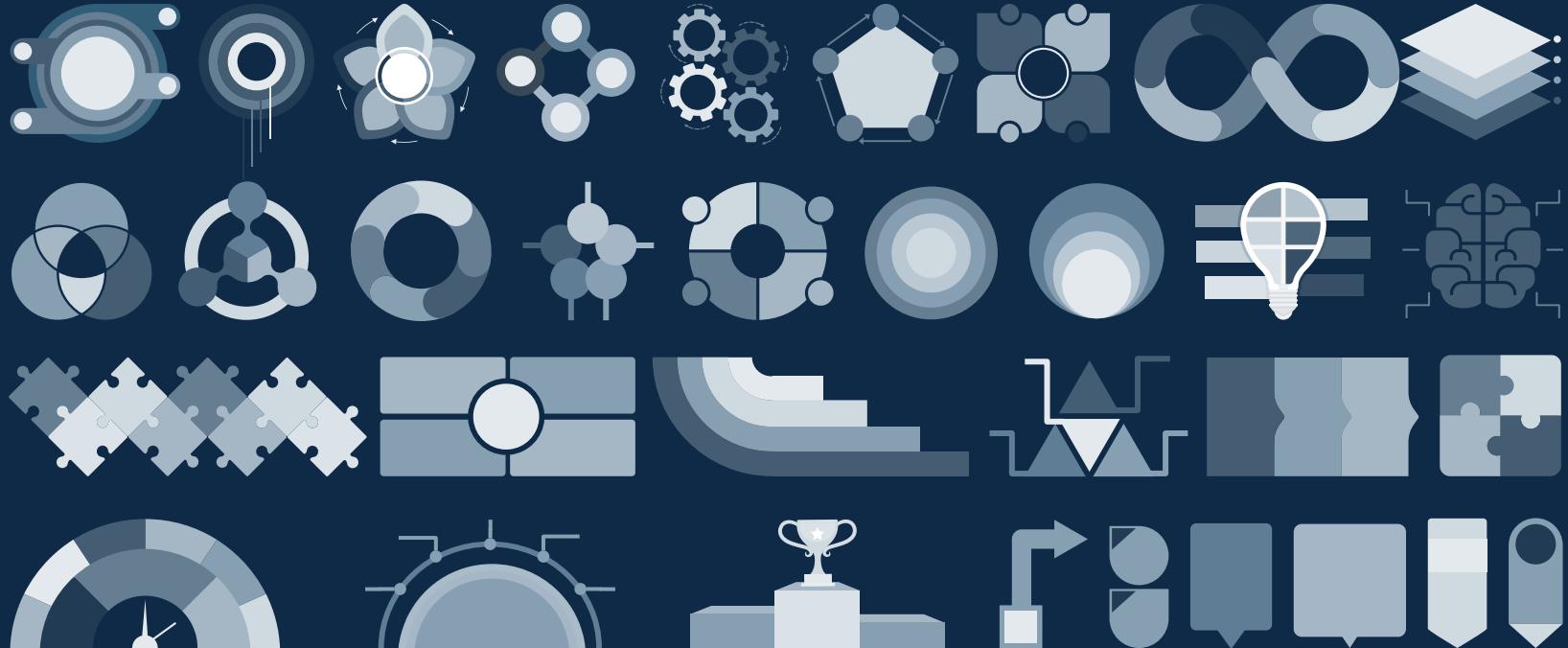
You can easily **resize** these resources without losing quality. To **change the color**, just ungroup the resource and click on the object you want to change. Then, click on the paint bucket and select the color you want. Group the resource again when you're done. You can also look for more **infographics** on Slidesgo.

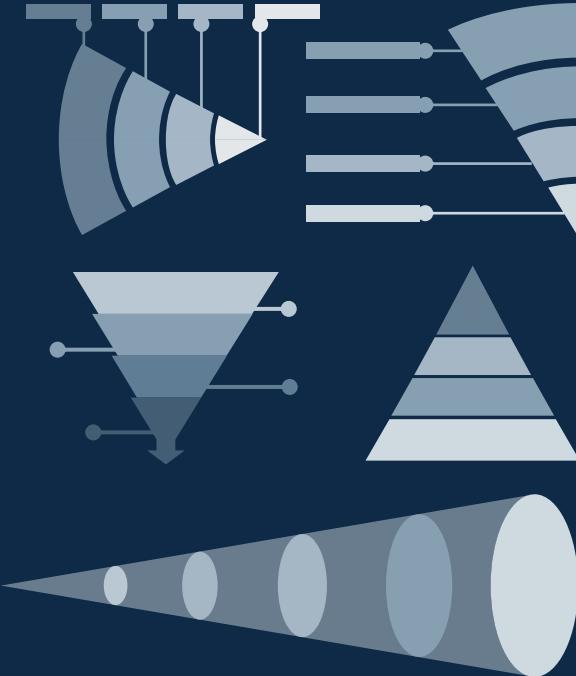
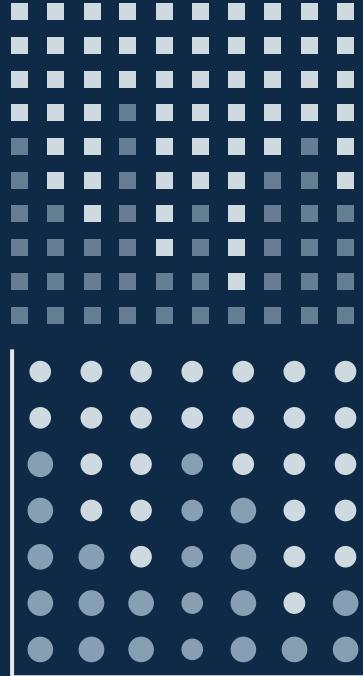












...and our sets of editable icons

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**.

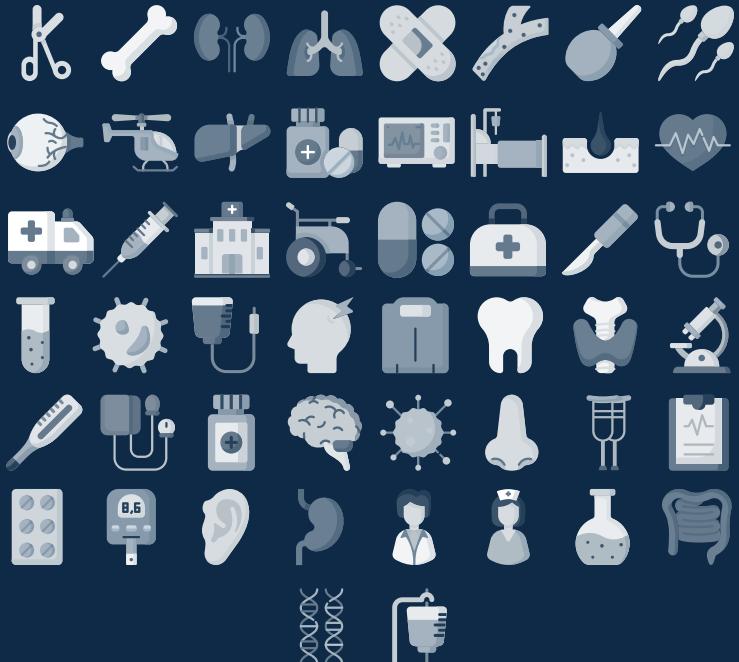
In Google Slides, you can also use **Flaticon's extension**, allowing you to customize and add even more icons.



Educational Icons



Medical Icons



Business Icons



Teamwork Icons



Help & Support Icons



Avatar Icons



Creative Process Icons



Performing Arts Icons



Nature Icons



SEO & Marketing Icons



