Diagram, text

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* With OOP you can design code for the whole government instead of just 1 department

**1/ Principles of OOP:**

* **Abstraction – show the use of function**
  + User does not need to know the working inside the function (internal inside).
  + We don’t want to see the implementation of function
  + Thus, we write function in class
  + The users here are programmers. No need to know how It works but just use it
  + This is how to write a library
  + Make function public
* **Encapsulation: Data Hiding**
  + Data is hiding inside.
  + Avoid mishandling not SECURITY. We hide data, make the function usable.
  + Make data private
* **Inheritance:**
  + Same class but make same change to make new class
  + Write new class that borrow all the same features
* **Polymorphism:**
  + Reuse function of CARs instead of rewrite it for all BWM, SUZUKI,….

**2/ Pointers to Object and create Object in stack and heap**

STACK:

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**3/ The philosophy behind data hiding:**

* Only functions are visible not the function.
* I want to guarantee that the function correct for the user. Not security

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**4/ Philosophy behind constructor:**

* When you create an object, it should have the characteristic / data at the same time, not garbage => Just logic

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Text, letter, whiteboard

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* You might want deep copy constructor instead of shallow copy constructor

**5/ Types of functions in a class:**

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* We just write a header of the funcition not function declaration

Text

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* This is how you write a function of a class outside of scope

Graphical user interface, text, application, chat or text message, email

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* You don’t have to do this

Graphical user interface, text, application

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* In C++, struct is similar as class
* However, in structure, data and function is public while in class, everything is private as default

A picture containing text, indoor, screenshot

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Description automatically generatedA picture containing text, indoor, screenshot

Description automatically generatedGraphical user interface, text

Description automatically generatedGraphical user interface, text, application

Description automatically generatedGraphical user interface, text, application, email

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