

# Top-down approach

What is it and the way it to apply it

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Zero

01 Definitions

02 Main keys of the method

03 How to use this method?

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05 How I apply method for  
this program

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Do it in the Top-down approach way

# Top-down approach

## What is it?

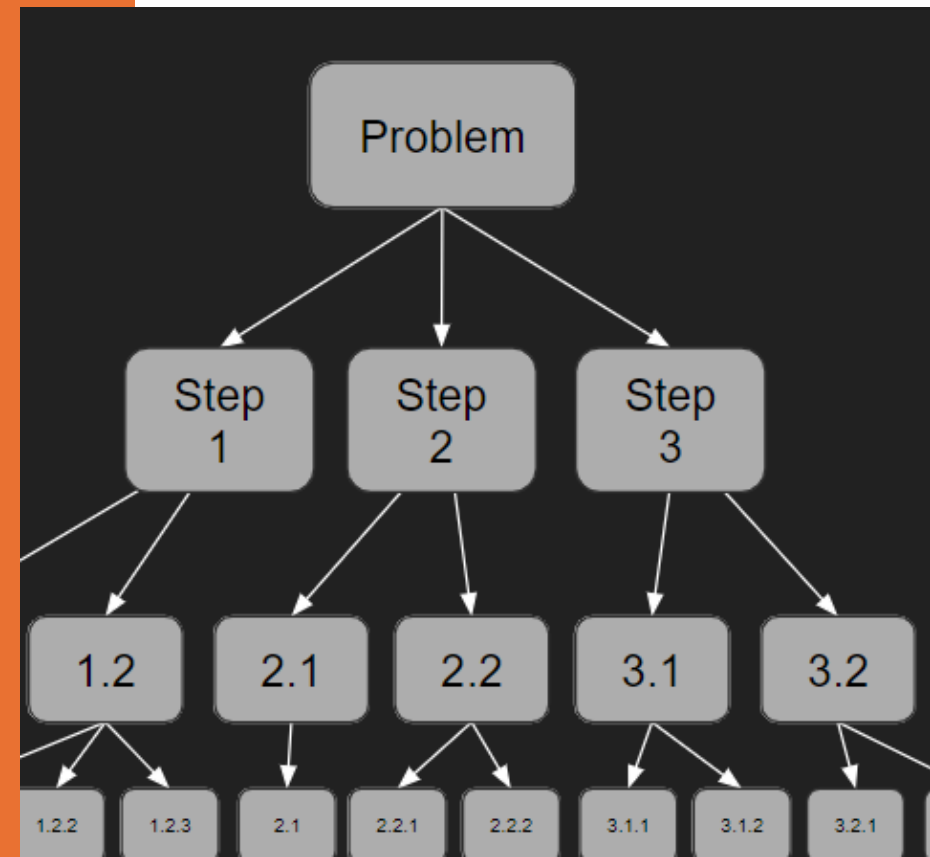
Top-down approach is a *method of problem-solving* that starts with an overview of the problem and divides it into smaller sub-problems.

In the name of  
Computer science

# Stepwise Refinement

It also know as top-down design and top-down approach and as you can see, it is the same

This method-solving is applying in many fields like Business, Programming and yes, this remarkable program.



# The Three Keys

It time to simplify complex problems but how to apply it?

## 1 Problem Definition and Task Division

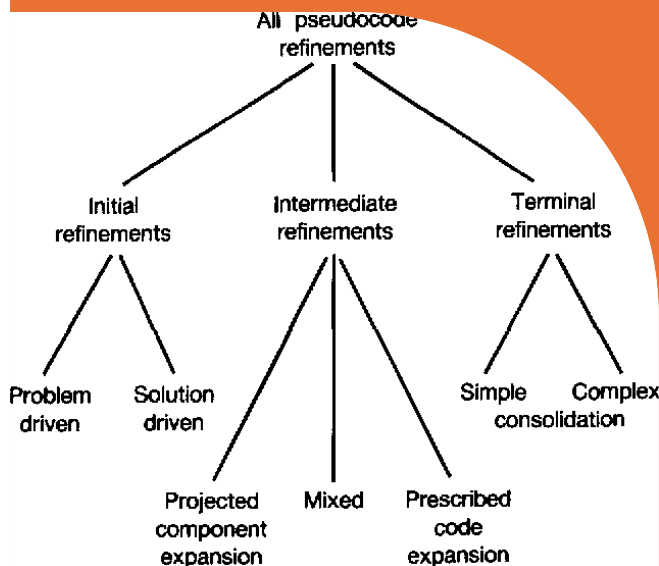
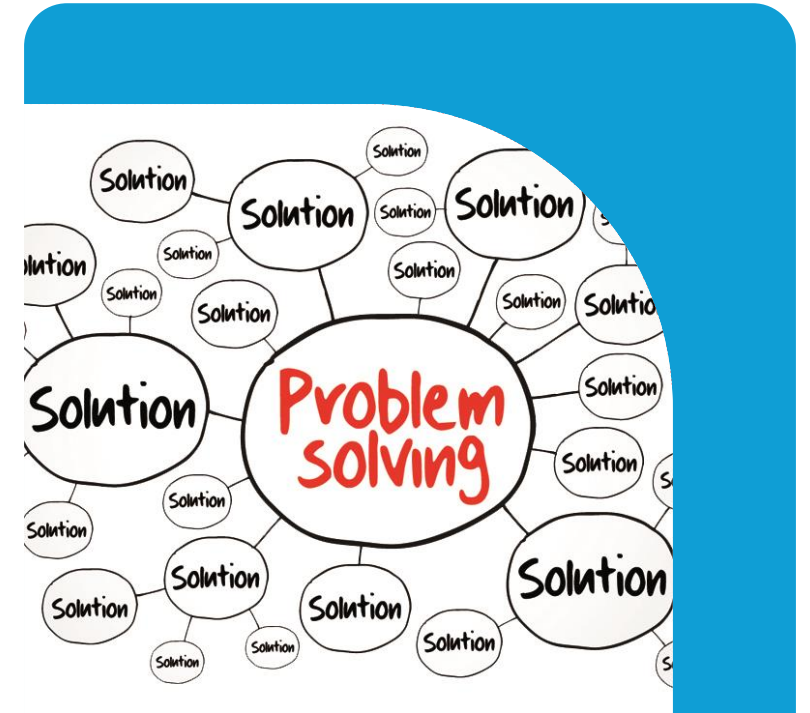


FIGURE 3. Hierarchy of Refinement Classes

## 2 Solving Small Problems



## 3 Implementation and Evaluation



# How the problem should be divided?



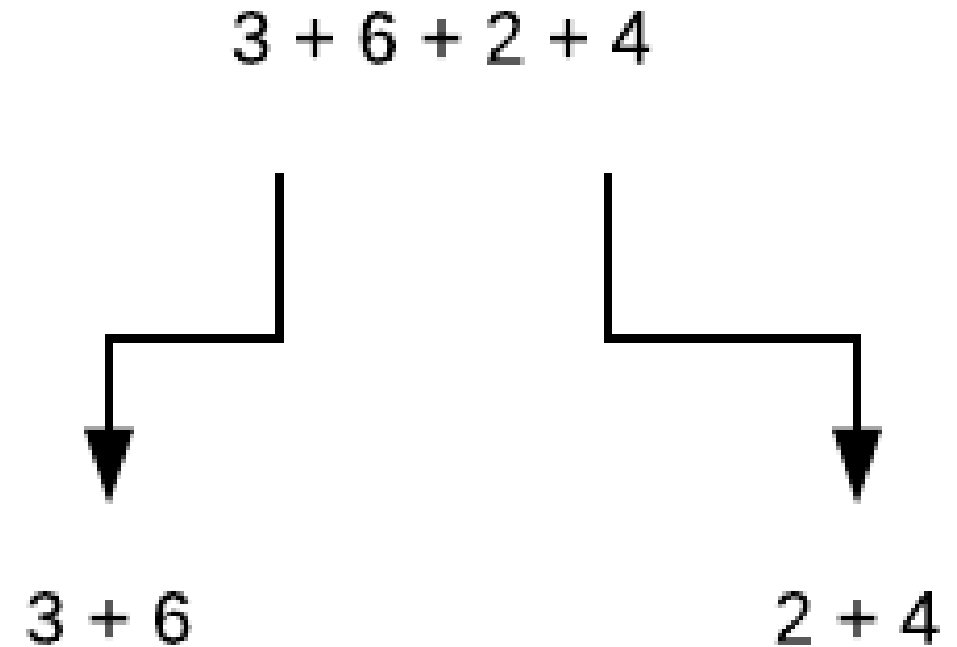
## Functional Decomposition

You need to identify the major things(function, operation...) of the problem. In other word, understand the problem clearly.



## Hierarchy and Dependencies:

Organize tasks into a structured order, breaking down the main problem, identify relationships between tasks for effective problem-solving.



# Key for

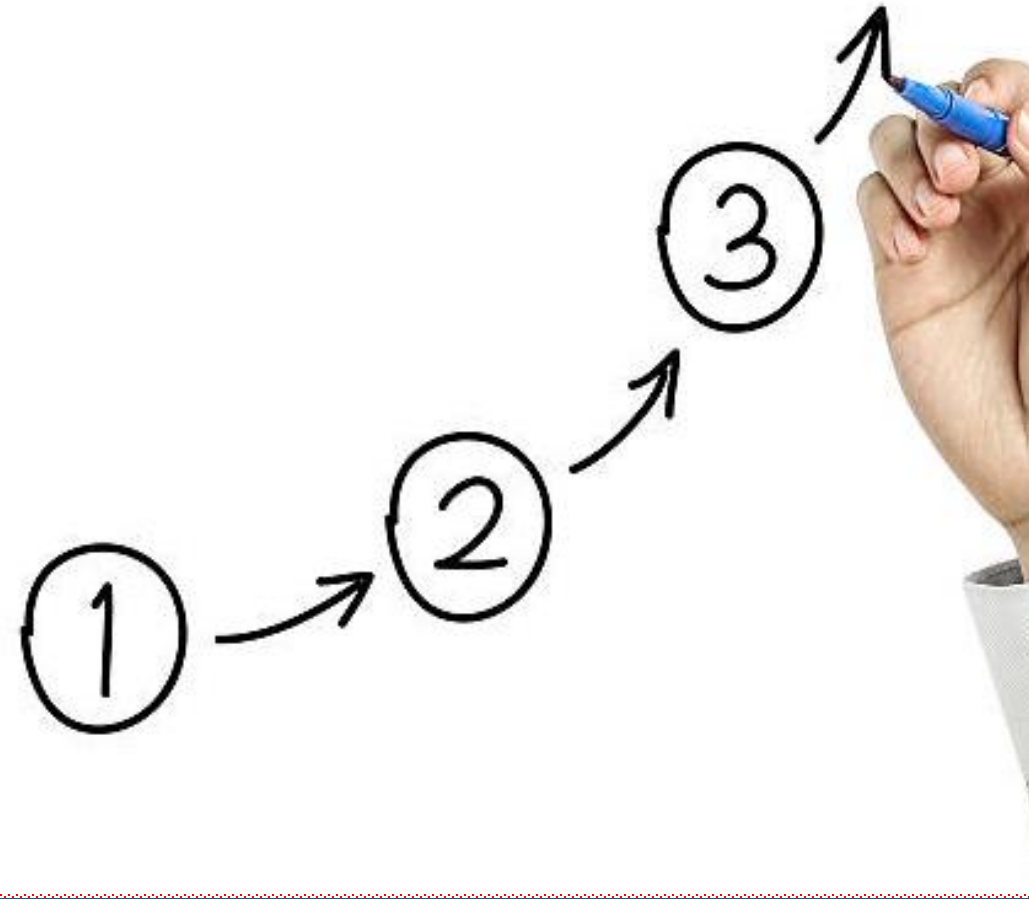
Simplify, break down, and progress incrementally

# SOLVING PROBLEM

Avoid making the problem too complex, keep it manageable. It also applies with your solution, *MAKE IT SIMPLE* and focused on the immediate problem.

Stay focused on the immediate goal BUT DO NOT overwhelming yourself.

Not the key you want but the key you need



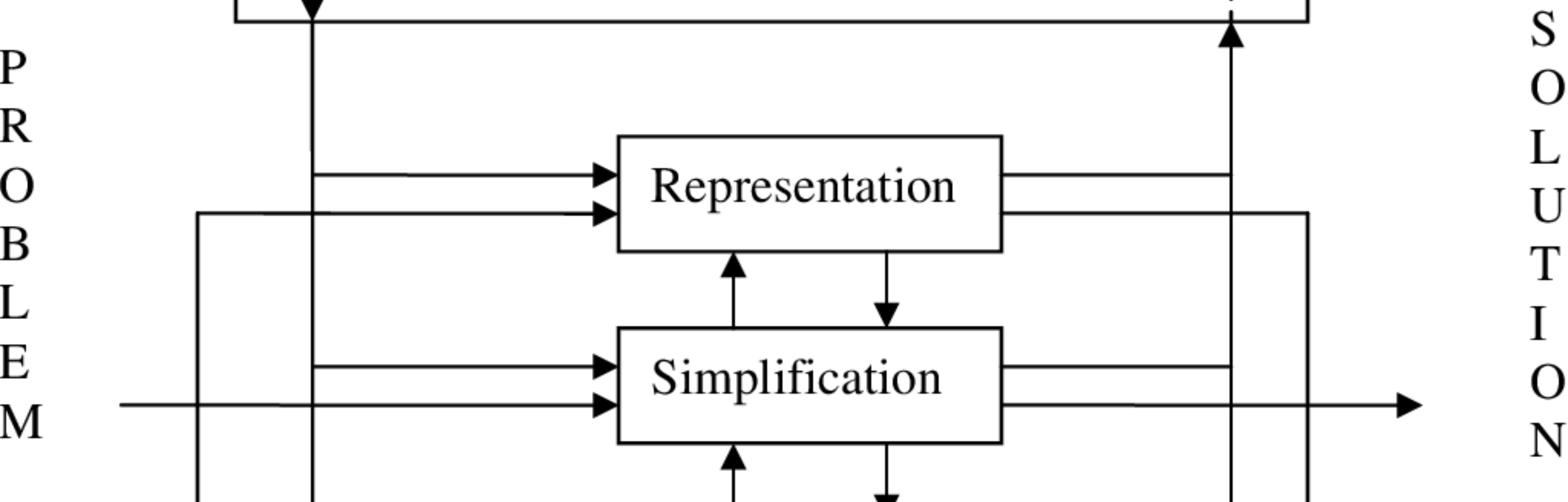
The final step

# Time for The BOSS

Now after a lots of hard words you have done. You now can describe the BIG problem in such a level of detail that you can understand clearly now.

That mean this is a **solvable problem**, and you know what to do





# BUT SHOULD I USE THIS METHOD?

Well that's depended on the problem and yourself actually

# The Advantages

1

## Understand easily

Provides a clear and structured approach to problem-solving, breaking down complex issues into manageable components, enhancing overall understanding.

2

## Less time

Allows for efficient use of time by avoiding unnecessary steps and computations because you understand and identify all the key for the problem.

3

## Educational Value

Witness and learn from the problem-solving process, providing insights that can be applied in future scenarios.

4

## Strategic Planning

Prioritization of tasks and a systematic progression toward the overall goal, ensuring a more effective and organized problem-solving process.

# The Disadvantages

Enough with all the good things, here is the bad one.

Easy to do  
**HARD** to change

Less flexible, **as decisions are made at a high level and the process is more structured so it's really hard to change** anything when we go a far way

RISK!!!

IT CAN LEAD TO  
**GREATER RISK**

Because we all take step by step from the TOP  
=> If the first step is wrong, then the solution is burned down

# How I apply this method on this program?

## Break the problems into small thing

**I Breaked it down.** Top down method: I break it into question: what is it? How it work? Where is the “place” I can use it for? Will this have any bad things?

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## Solving Small Problems

Now it is so simple, what I need to do is just do a research to answer each question

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## Time for the final answer

Done with all the small thing, combine it into this PPT and send to Mr. Dao Vo 😊

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This is the end

# Thank You

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**Vo Nguyen Gia Huy**

**Internship – Journey To Your  
Best Program**

**Challenge 0 – The first step**