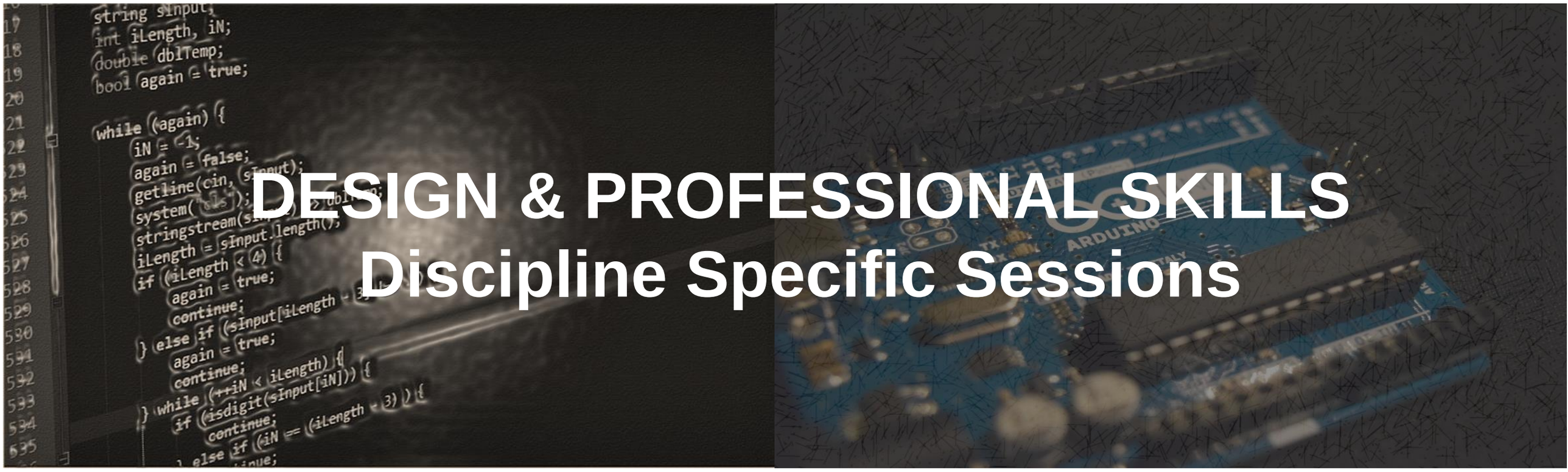

DESIGN & PROFESSIONAL SKILLS
Discipline Specific Sessions

https://www.maxpixel.net/Digital-Coding-Programming-Source-Code-C-Code-583537

Dr. Alejandra Beghelli

alejandra.beghelli@ucl.ac.uk

https://commons.wikimedia.org/wiki/File:C_Programming_Language.svg

PART I

Introduction to the C programming language

Pre-recorded lecture + Practical session

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PART II

Introduction to the Arduino UNO board

Pre-recorded lecture + Practical session

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PART I

Introduction to the C programming language

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Language Ranking: IEEE Spectrum

Rank	Language	Type	Score
1	Python		100.0
2	Java		95.4
3	C		94.7
4	C++		92.4
5	JavaScript		88.1
6	C#		82.4
7	R		81.7

https://spectrum.ieee.org/top-programming-languages/#/index/2021

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PART I

Introduction to the C programming language

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IEEE: Institute of **E**lectrical and **E**lectronics **E**ngineers
ieee.org

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PART I

Introduction to the C programming language
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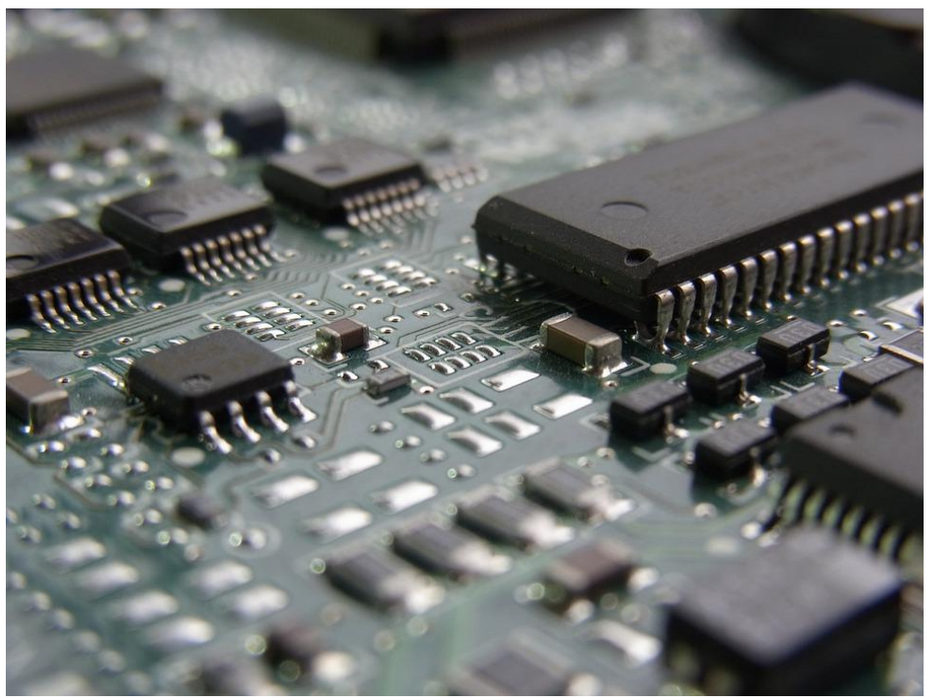
Closest programming language to hardware (after Assembler)



https://pixabay.com/photos/hardware-technology-motherboard-4955429/

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PART I

Introduction to the C programming language
Pre-recorded lecture + Practical session

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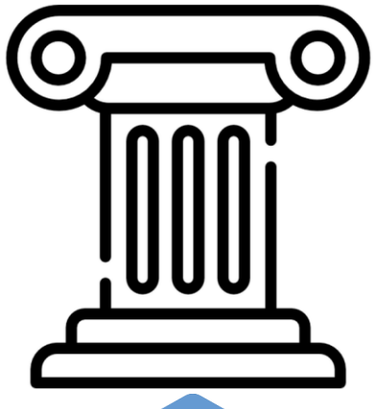

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PART I

Introduction to the C programming language

Pre-recorded lecture + Practical session

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PART II

Introduction to the Arduino UNO board

Pre-recorded lecture + Practical session

1. C is a **compiled** language

1. C is a **compiled** language

Source code

main.c

```c
#include <stdio.h>

int main(void) {
  printf("Hello World\n");
  return 0;
}
```

Compilation process

Machine code

```
00001100
11010111
01011101
00011000
```

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ERROR

1. C is a **compiled** language
2. C is a **procedural** language

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```
Main procedure
{
  Instruction 1
  Instruction 2
  Procedure X
  Instruction 3
  Instruction 4
  Procedure Y
}
```

1. C is a **compiled** language
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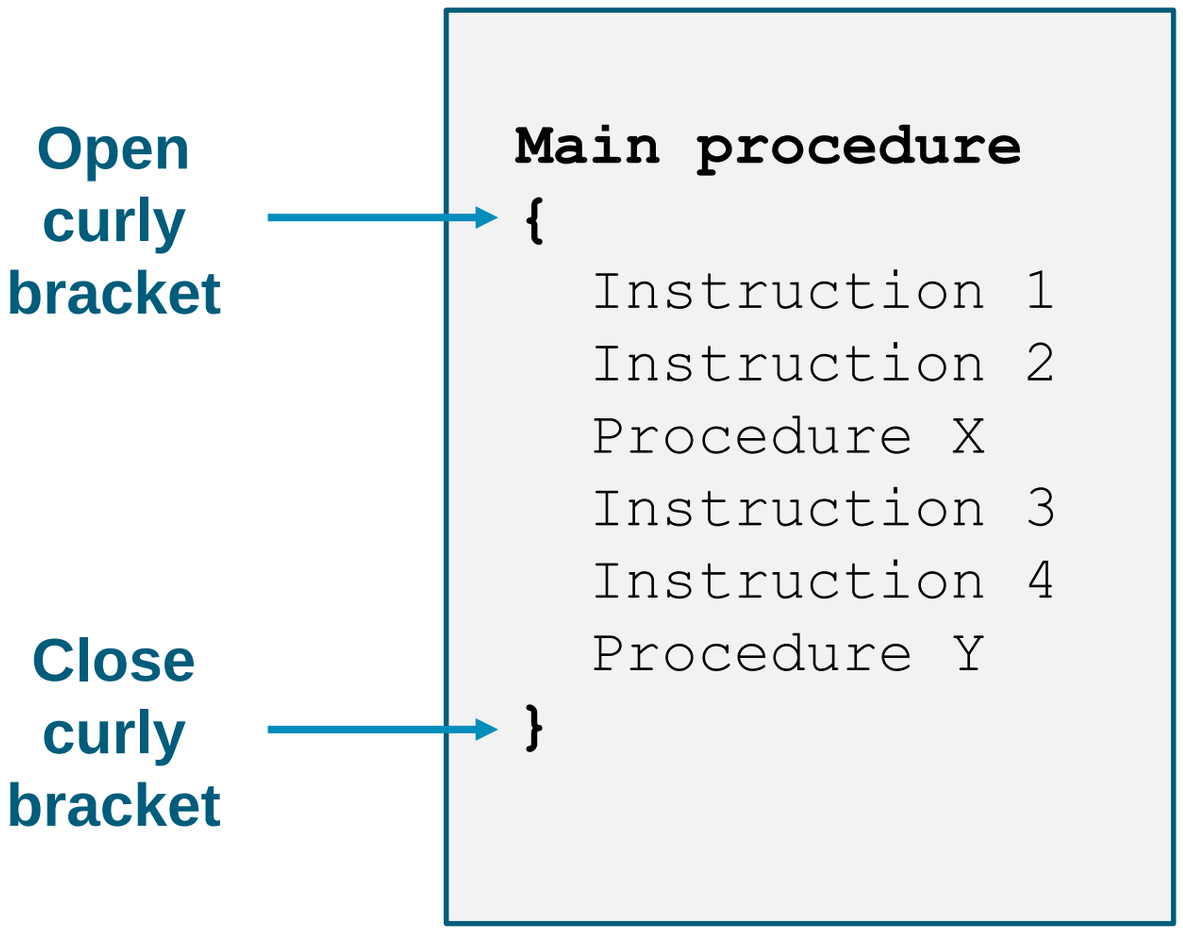

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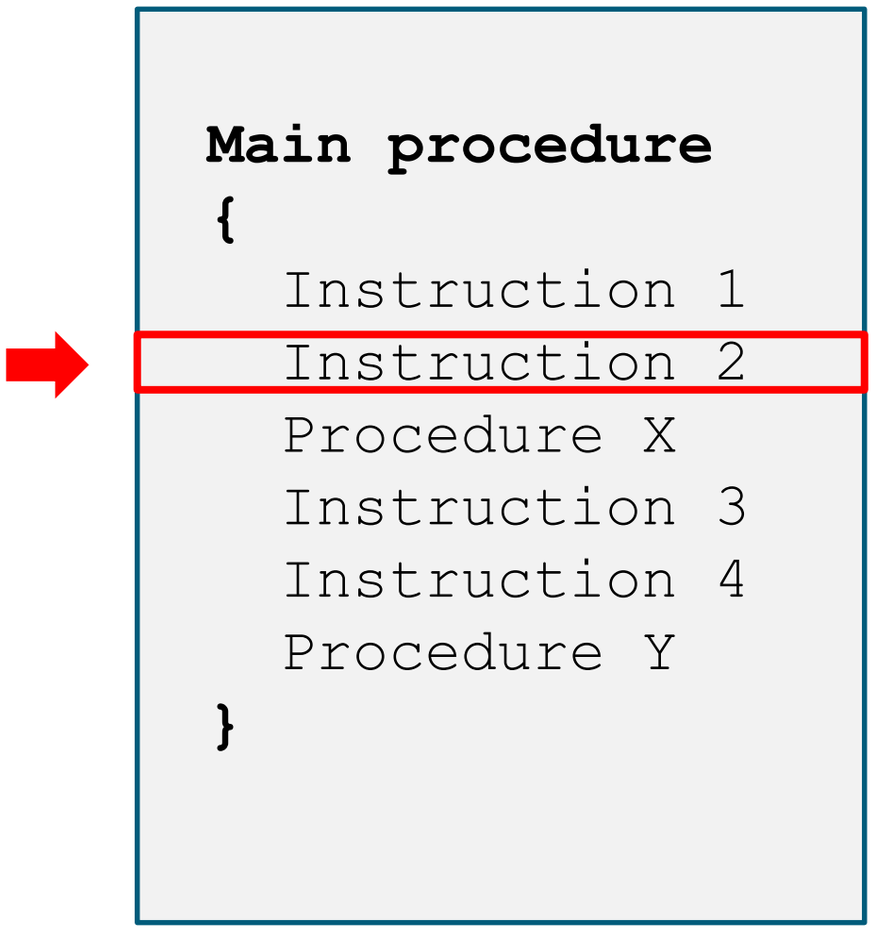

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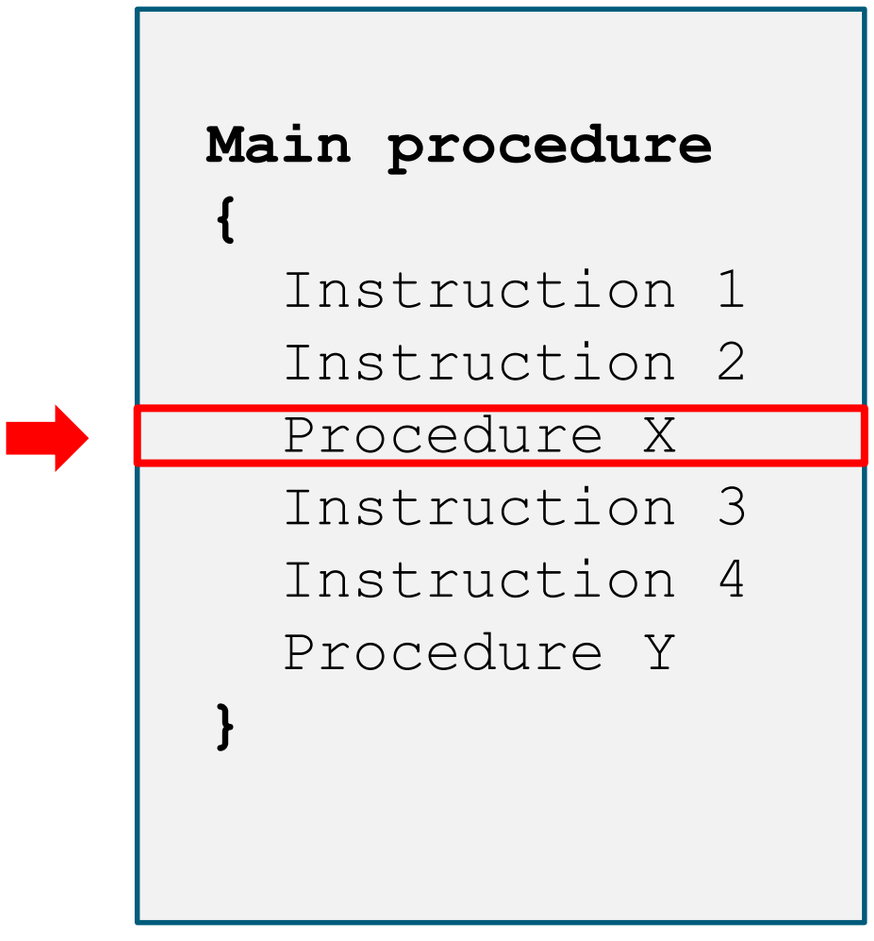

1. C is a **compiled** language
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Waiting for the execution of Procedure X to finish

```
Main procedure
{
   Instruction 1
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```

```
Procedure X
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   Instruction X.2
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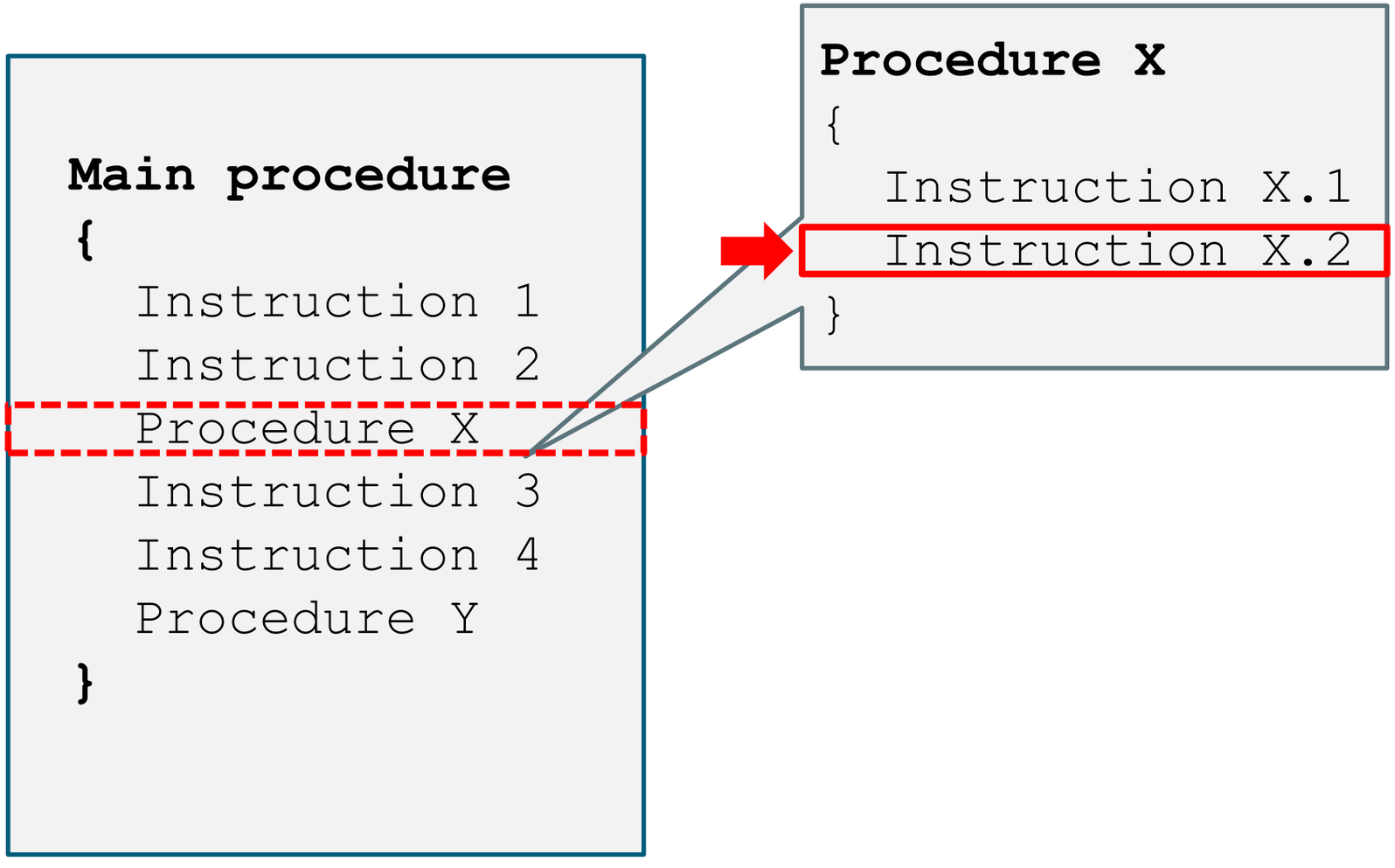

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```
Procedure Y
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   Instruction Y.2
   Instruction Y.3
}
```

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