INC 141
Computer Programming for INC

Lab 1

Lecturer

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Learning Outcomes (Lab 1)

- **Use IDE and debug**

- **Understand basic C syntax**

- **Use arithmetic commands**

Computer Programming

=

Give commands to computers

Program = Set of commands

Run (open, double click)
= send commands to the computer

Please tell you computer to calculate

1. 30 + 120 – 75

2. Common multiplier (ค.ร.น.) of 30,120,75

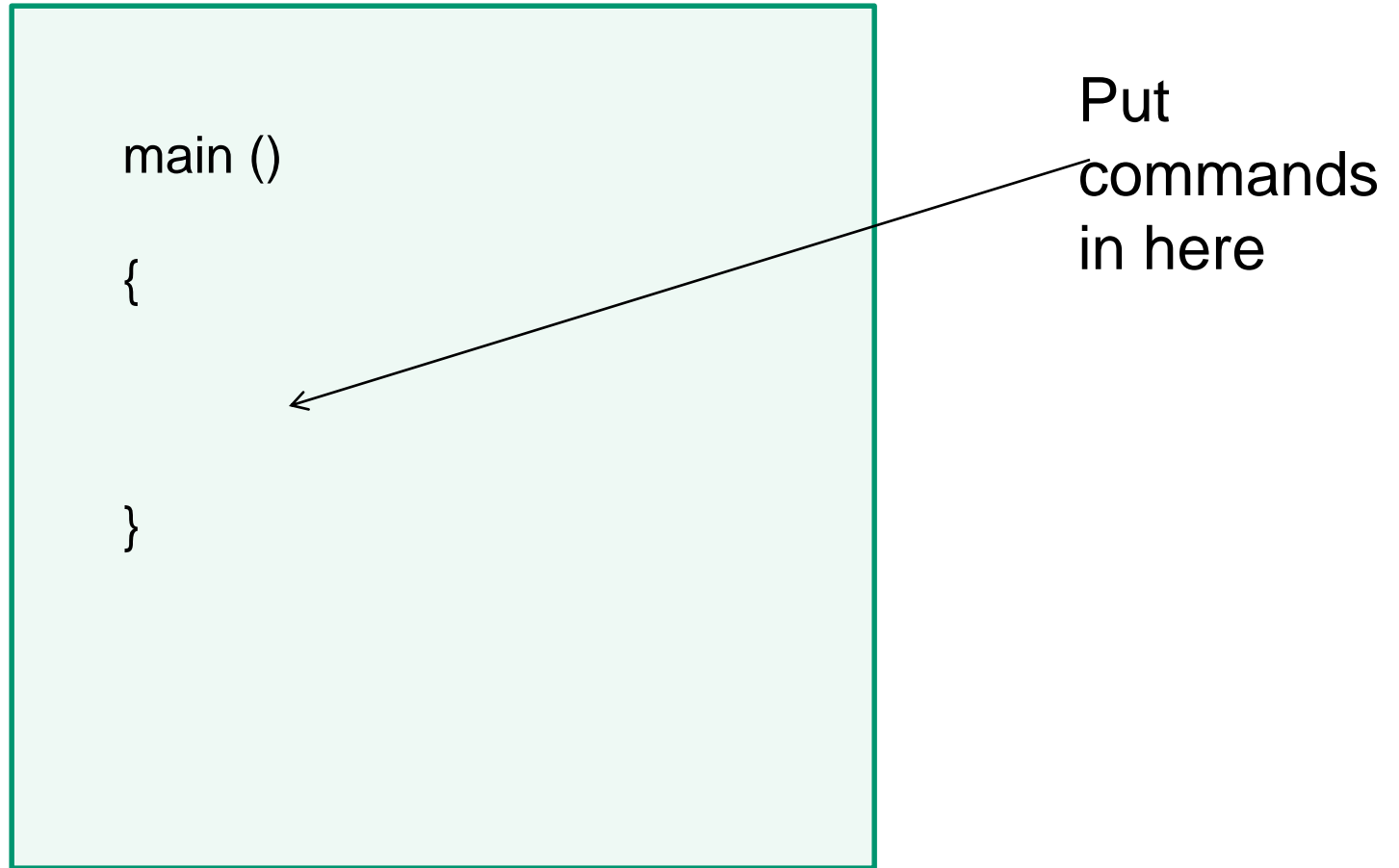We want to prepare a set of computer commands

(writing a program)

by your own

Codeblocks

Codeblocks is an integrated development environment (IDE) program.

It is a tool for programmer.

You can use it to write, run program (set of commands)

C Program Structure

```
main ()

{



}
```

Put commands in here

Sample Program 1

```
main ()

{

    int i;
    i = 0;
    i = i+2;
    i = i *3;
    i = i -1;

}
```

Run

```
main ()

{

    int i;
  i = 0;
  i = i+2;
  i = i *3;
  i = i -1;

}
```

- Commands are run in order top-down

- Commands are run one-by-one

- No pause

- Very fast

Debugger

- **Debugger is a tool used to stop the program and examine its variables**

- **Codeblocks has a debugger plugged-in**

Syntax Correction

Read error messages !!!!!

C language has a syntax.

Variable Declaration

We can define a part of memory to store data and can give a name to it.

Later, we can refer to it by this name.

int	Integer	1,2,3,0,-1,-2
float	Floating-point	12.44, 8.2816
char	Character	a, b, c, A, B, C

int = integer

float = floating point

char = character

Follow with variable name e.g.

int a;
float pt;

(Every command in C must end with semi-colon)

Constant

- **Number constant
  e.g. 1, 2, -48**

- **Character constant
  Single character in quote
  e.g. 'a' 'P'**

Note: Variable name and character constant are different

The Assignment Operator =

- **It will calculate the right side of = and assign the left side variable to the calculated value.**

- **When a floating-point number is assigned to an integer variable, the fractional part will be discarded.**

```
> int i;
> float d = 10.789;
> i = d;
(i = 10)
```

e.g.
variable = constant
variable = variable

Arithmetic Operators

- There are five arithmetic operators:
    1) +   Addition
    2) -   Subtraction
    3) *   Multiplication
    4) /   Division
    5) %   Modulus

- **The multiplication operator * is needed for multiplication.**

- The result of the % operator is the remainder. If the value of the second operand is zero, the behavior is undefined.

- The operands of the % operator shall have integer type.

Tasks

Submit 2 Tasks (2 images) today

Take a screenshot of your code and submit into LEB2 (as images)
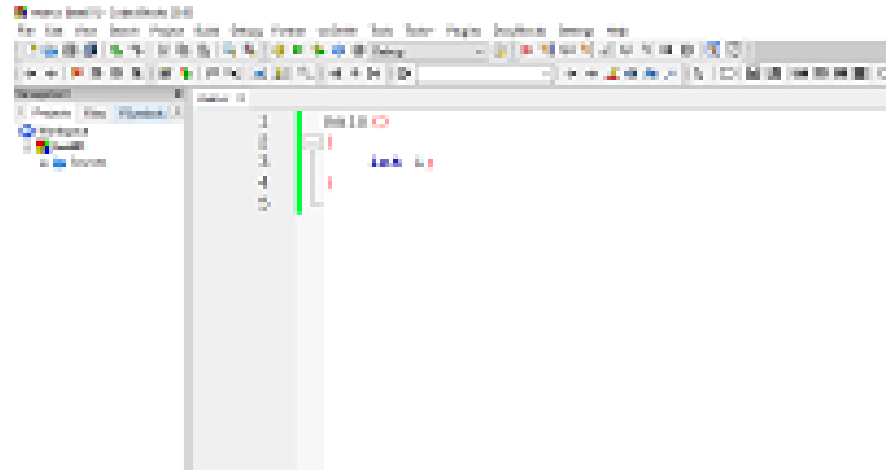
Task 1

- **Define two variables name i and j**

- **Make i equal to 3 and j equal to 4**

- **Calculate the sum of i and j and put it in another variable named k**

Check your result with a debugger

Task 2

- **Try to order your computer to make a division of 3 by 4**

- **Do you get the answer right?**