Introduction to Programming

Lecture 2: Introduction to C

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Review Lecture 1

- *Introduction to the course*
  - General information
  - Syllabus
  - Course organization
  - General rules
- *Introduction to Programming*
  - Programming Skills
  - Programming Model
  - Elements of a real Programming Languages
  - History of C
  - Compiler Terminology

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Outline

- *Introduction to C Langauge*
- *Your First C Program*
- *Let's have another example*
- *Program Structure*

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Programming Language

- *A programming language is a tool*
  - Can not perform every task unaided
- *C language has built-in functions*
  - But not for every thing
- *C is a dangerous language*
  - Provide low level access to memory
  - You should be careful while dealing with it

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Your First C Program

```
#include <stdio.h>

int main()
{

    printf("Hello, world!\n");
    return 0;

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Your Second C Program

```
#include <stdio.h>
/* print a few numbers, to illustrate a
simple loop */
int main()
{
    int i;  // single line comment
    for(i = 0; i < 10; i = i + 1)
        printf("i is %d\n", i);
    return 0;
}
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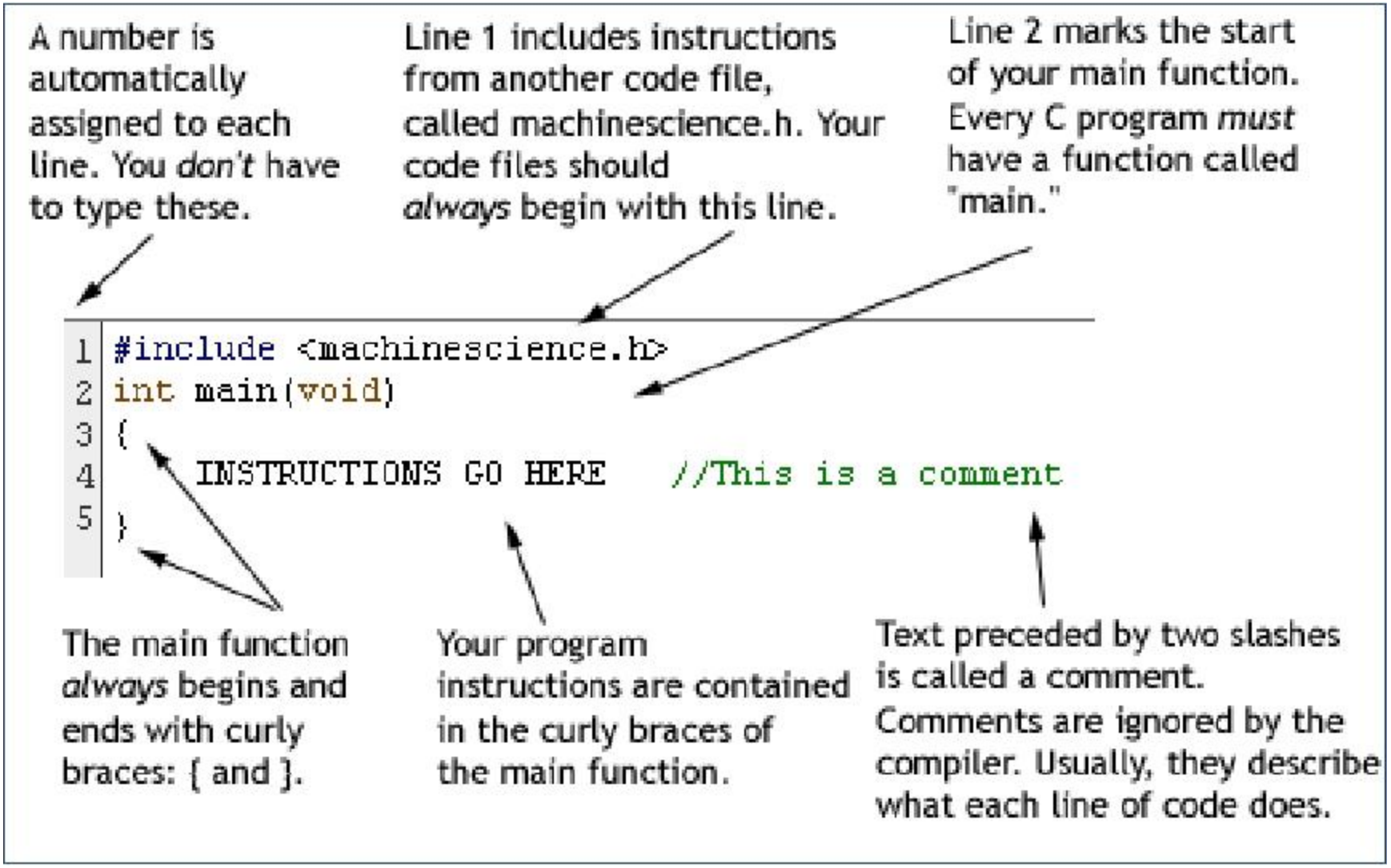
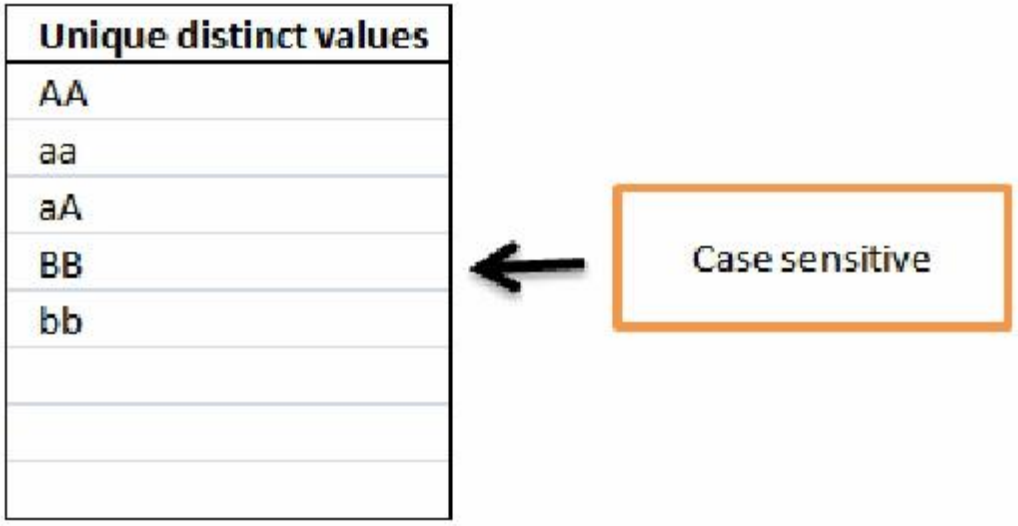
Program Structure



C is Case-Sensitive



- *So if you write "**Main**" instead of "**main**" or "**iNt**" instead of "**int**", the compiler will give you an error*

1st Good Programming Style (Indentation)

- *C don't care about spaces*

```
for(i = 0; i < 10; i = i + 1)
        printf("%d\n", i);
```

```
for(i = 0; i < 10; i = i + 1) printf("%d\n", i);
```

```
        for(i = 0; i < 10; i = i + 1)
printf("%d\n", i);
```

```
for     (       i
=       0       ;
i       <       10
;       i       =
i       +       1
)       printf  (
"%d\n"  ,       i
)       ;
```

Summary

- *C program*
  - May contain several functions
  - It can also use built-in functions (don't forget the include)
  - Must have a main function
    - *It may return a value (0, -1)*
  - Comments can be used to enrich your program and make it more readable
- *C is case sensitive*
- *Indentations (white spaces) is a good programming style*