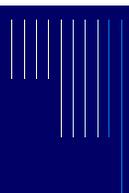


First Program

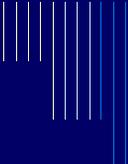
Hello World



Hello World

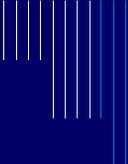
- Traditional First Program

```
#include <stdio.h>
int main() {
    printf("Hello World\n");
    return(0);
}
```



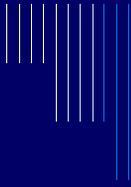
#include <stdio.h>

- ❑ This line **includes** the "standard I/O library" into your program.
- ❑ C has files called **.h** or "**include**" files which give the compiler the information it needs for functions or constants used in your program.
- ❑ In this case `stdio.h` has the **prototype** for `printf`. (Prototypes defines the function for the compiler)



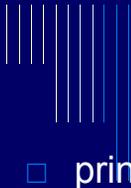
int main() { }

- ❑ All C language programs have a main function called "main". It's required.
- ❑ It's the function that the will be given control to first.
- ❑ Later you will be writing programs with more functions, but you will always start with main.



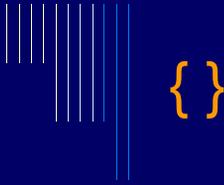
return(0);

- `int` is short for integer.
- `main` usually is defined this way to allow for a return code. We usually just return 0.
 - `int main()`
- Returning zero means everything is all right. A non-zero code would have a particular meaning depending on the program. (like Error 404 on the web).

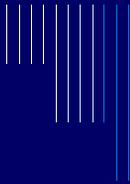


printf("Hello World\n");

- `printf` is the function we use to print information to the screen (standard output).
- We will learn more about it shortly, but the first parameter must be a string.
- The `"\n"` means "newline", like a pressing return when typing. (Notice it is a backward slash)
- Note the `;`, it is required at the end of most lines of C code.



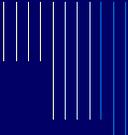
- We use curly brackets as a beginning and end to a block of code.
- We will see them again for grouping statements for if-then-else statements and for loops.
- We use () for function parameters.
- In the future we will use [] for arrays



General program structure

```
#include <something.h>
```

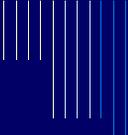
```
int main() {  
    statement;  
    statement;  
    return(0);  
}
```



Don't forget comments

- Two styles
 - `/*commented content*/`
 - `//commented line`

 - `/*`
this is a multi-line comment
that can be useful to describe a program
`*/`
 - `//` a single line comment
-



Finished program

```
// Zaphod Beeblebrox
// Feb.14,2022   ICS3U
// Print out "Hello World" to screen

#include <stdio.h>

int main() {
    printf("Hello World\n");
    getchar();
    return(0);        //everything okay
}
```
