C programming language

Jeremy Iverson

College of Saint Benedict & Saint John's University

origins

Dennis Ritchie in 2011 / CC BY 2.0

Brian Kernighan in 2012 / CC BY 2.0

comparison

Java	C
object-oriented	procedural
interpreted	compiled
`String`	`char` array
condition (`boolean`)	condition (`int`)
garbage-collected	no memory management
references	pointers
exceptions	error codes

hello, world

```c
#include <stdio.h>

int main()
{
  printf("hello, world\n");
  return 0;
}
```

```
$ gcc -o helloworld helloworld.c
$ ./helloworld
hello, world
```

conditions

- under what conditions will each of the following be execute?

```
1  if (x) {
2    /* ??? */
3  }
4  if (x-y) {
5    /* ??? */
6  }
7  if (x=y) {
8    /* ??? */
9  }
```

add evens

- create program called `addEven.c` that adds all the even numbers between 1 and 100 and prints the sum

add evens cont.

- modify `addEven.c` to get maximum value from the command-line instead of hard-coded as 100

```c
#include <stdio.h>

int main(int argc, char * argv[])
{
  printf ("(%d) %s:%s\n", argv[0], argv[1]);
  return 0;
}
```

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