

C programming language

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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

- in Java, everything is a method that is called on an object
- in C, everything is a function
- in Java, source code is compiled to byte code, which is then interpreted by Java VM
- in C, source code is compiled into binary machine code
- in Java, String is a class
- in C, a string is just an array of **char** values which ends with the **char** `'\0'`
- in Java, the Java VM takes care of deallocating memory used
- in C, any memory you allocate, you must also deallocate

hello, world

```
1 #include <stdio.h>
2
3 int main() {
4     printf("hello, world\n");
5     return 0;
6 }
```

```
$ 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

```
1 #include <stdio.h>
2
3 int main(int argc, char * argv[]) {
4     printf("(%d) %s:%s\n", argc, argv[0],
5         argv[1]);
6     return 0;
7 }
```



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