

Function pointers

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What is a function pointer?

“Variable that stores the address of a function”

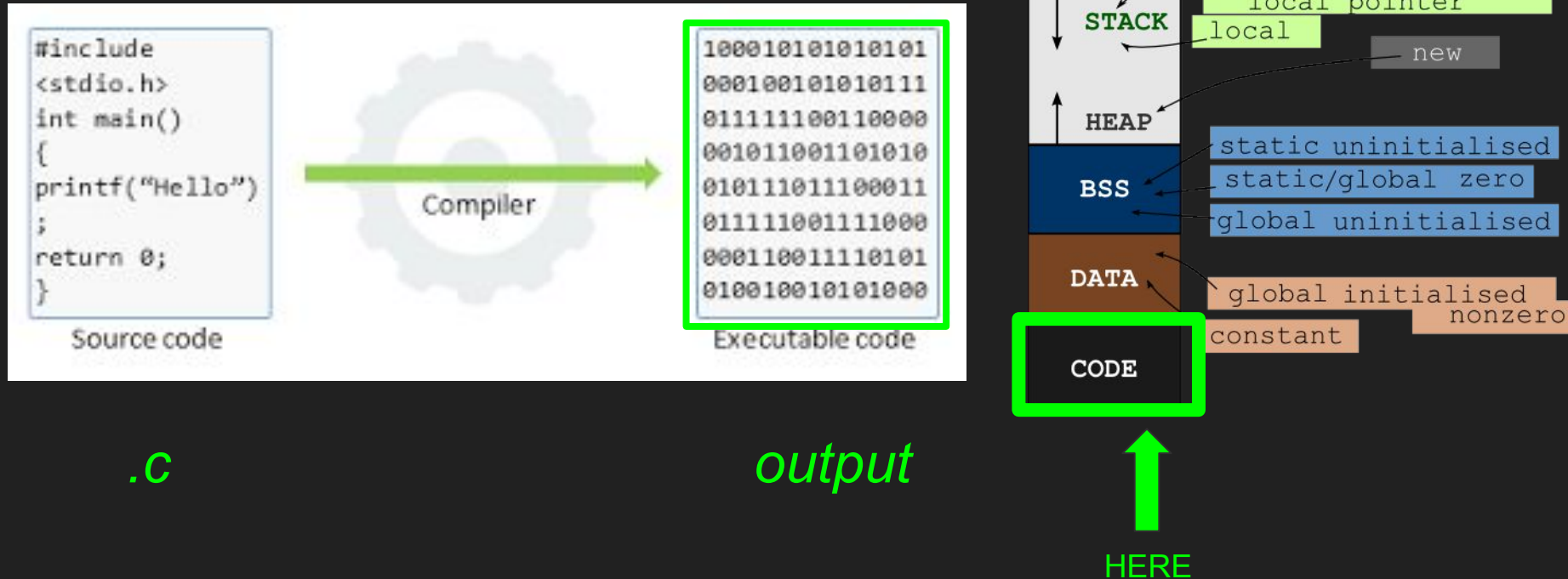
Why?

You can pass a function into a function !

Example : `qsort` (ascending or descending order)

Pass a comparison function.

Where is a function located?



Code Segment

Function
pointer

220

200

Instruction -1

204

Instruction -2

208

Instruction -3

212

Instruction -4

216

Instruction -5

220

Instruction -6

224

Instruction -7

228

Instruction -8

232

Instruction -9

236

Instruction -10

240

Instruction -11



How to define a function pointer

```
int Add(int a, int b)
{
    return a + b;
}
```

```
int (*p)(int, int);

p = &Add;

(*p)(2, 3);
```

Warning

```
int (*p)(int, int);
```

VS

```
int *p(int, int);    // Declaring a function that returns int *
```

Equal

```
int (*p)(int, int);
```

```
p = &Add;
```

```
(*p)(2, 3);
```

```
int (*p)(int, int);
```

```
p = Add;
```

```
p(2, 3);
```


Demo

Simple Example