Exercises regarding pointers and dynamic memory management in C

May 7, 2014

Exercise 1: Declaration

- Declare a pointer to int and set it to NULL.

- Declare a pointer to pointer to int and set it's value to the address of the pointer you declared previously

- Declare a constant pointer to int. Is it possible to modify the referenced variable?

- What happens if you omit the explicit initialization in a declaration?

Exercise 2: Code transformation

Transform the following piece of code to use only array notation (and index manipulation)

```
int arr[10] = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9};
int *ptr = &arr[0];
while (ptr <= &arr[9]) {
    printf("ptr points to %d\n", *ptr);
    ptr++; // ptr now points to the next element
}
```

Exercise 3: Dynamic memory management

Try to implement your own version of `calloc()`. You can make use of `malloc()`.