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1  /*****
2  * arrays_and_pointers: learn how arrays and pointers are connected *
3  * code example from lecture 6 *
4  * dated 22.05.19 *
5  *****/
6
7  #include <stdio.h>
8
9  int main(){
10     int a[] = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10};
11     printf("a[0] = %d\n", a[0]);
12     printf("a[1] = %d\n", a[1]);
13     printf("a[2] = %d\n", a[2]);
14     printf("a[3] = %d\n", a[3]);
15
16     // array names decay to pointers upon use!!
17     printf("*a = %d\n", *a);
18     printf("*a + 1 = %d\n", *(a + 1) );
19     printf("*a + 2 = %d\n", *(a + 2) );
20     printf("*a + 3 = %d\n", *(a + 3) );
21     printf("*a + 9 = %d\n", *(a + 9) );
22
23     // memory addresses
24     printf("a = %p\n", a);
25     printf("a + 1 = %p\n", a + 1);
26     printf("a + 2 = %p\n", a + 2);
27
28     // difference between pointers and arrays
29     int *ptr = a;
30     printf("Size of a = %zu\n", sizeof(a));
31     printf("Size of ptr = %zu\n", sizeof(ptr));
32
33
34
35
36
37     return 0;
38 }

```