```
File - D:\cpl\2023-cpl-coding-0\11-function-pointers\bsearch.c
 1 //
 2 // Created by hfwei on 2023/12/13.
 3 //
 5 #include <stdio.h>
 7 // See https://elixir.bootlin.com/linux/latest/source/include/linux/
   types.h#L245
 8 typedef int (*cmp_func_t)(const void *a, const void *b);
10 // See https://elixir.bootlin.com/linux/latest/source/include/linux/
   bsearch.h#L8
11 void *bsearch(const void *key, const void *base,
12
                  size_t num, size_t size, cmp_func_t cmp);
13
14 int main(void) {
15
16
    return 0;
17 }
18
19 void *bsearch(const void *key, const void *base, size_t num, size_t
   size, cmp_func_t cmp) {
     const char *pivot;
21
     int result;
22
23
     while (num > 0) {
24
       pivot = base + (num >> 1) * size;
25
       result = cmp(key, pivot);
26
       if (result == 0) {
27
28
        return (void *) pivot;
29
       }
30
31
       if (result > 0) {
32
         base = pivot + size;
33
          num--;
34
       }
35
36
       num >>= 1;
37
38
39
     return NULL;
40 }
```