

Function Pointers

King – Chapter 17.7

Pointers to Functions

- Since a pointer is just an address, we can have pointers to functions!

```
int cube(int x) {  
    return x*x*x;  
}
```

```
int (*f)(int); /*Define a function pointer*/  
f = cube;  
/* Call the function that f points to */  
printf ("%d\n", (*f)(5));
```

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Example

```
void map(int *nums, int size, int (*f)(int)) {  
    int i;  
    for(i = 0; i < size; i++)  
        nums[i] = (*f)(nums[i]);  
}  
  
int square(int x) { return x*x; }  
  
int div2(int x) { return x/2; }  
  
int main() {  
    int a[8] = {2, 4, 6, 8, 10, 12, 14, 16};  
    int i;  
    map(a, 8, square);  
    map(a, 8, div2);  
  
    for(i = 0; i < 8; i++) {  
        printf("a[%d] = %d\n", i, a[i]);  
    }  
    return 0;  
}
```

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