Input/Output
Keyboard Input

- scanf function
- from <stdio.h>
- int x;
- scanf(“%d”, &x);
Examples

double y;

scanf("%lf", &y);

double *z = &y;

scanf("%lf", z);
More on Pointers…

For arrays:

```c
int a[] = {1, 2, 3};

int *pointerToA = a; // a actually points to address!
```

For other types:

```c
int b = 4;

int *pointerToB = &b; // Must use address!
```
Dereferencing Pointers

int a = 4;
int *b = &a;
int c = *b;

// c's value is 4
Reading Strings

• Do not use scanf!

• Use scanner (download via activity)
Command Line Input

• $ prog 1 file.txt b

• extra arguments when you run program

• int argc, char **argv

• stored as strings
FILE *fp = fopen("data","r")
if (fp == 0)
{
    fprintf(stderr,"file data could not be opened for reading\n");
    exit(1);
}

x = readInt(fp);
printf("the number read was %d\n",x);
fclose(fp);
File Output

```c
printf("hello, world!\n");
fprintf(stdout,"hello, world!\n");

// delete the contents
FILE *fp = fopen(fileName,"w")
// check that fopen did not encounter a problem
fclose(fp);
```
input.c