CS10003:
Programming & Data Structures

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Autumn 2020

Command Line Arguments

What are they?

- A program can be executed by directly typing a command with parameters at the prompt

  $ cc –o test test.c

  $ ./a.out in.dat out.dat

  $ prog_name param_1 param_2 param_3

  ..

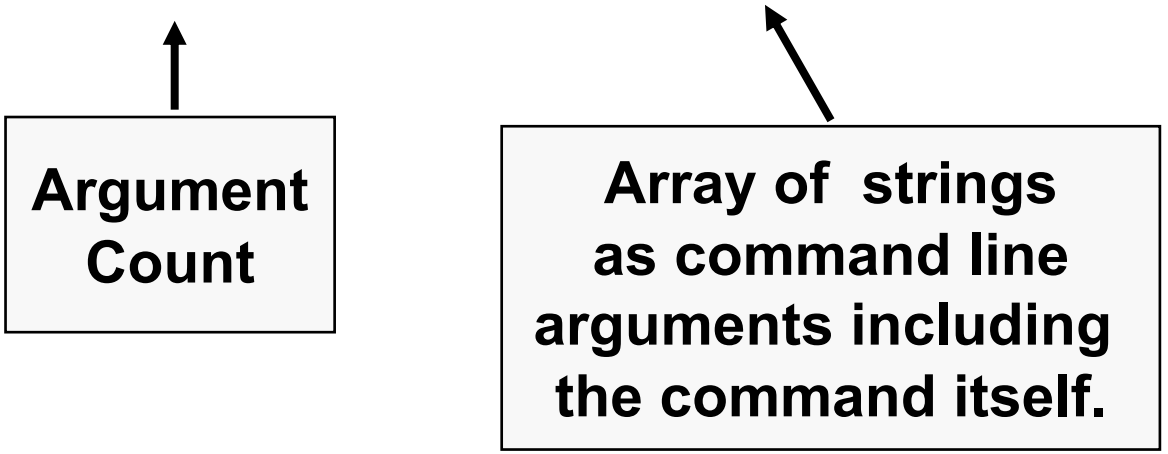
  - The individual items specified are separated from one another by spaces
    - First item is the program name

What do they mean?

- Recall that main() is also a function
- It can also take parameters, just like other C function
- The items in the command line are passed as parameters to main
- Parameters argc and argv in main keeps track of the items specified in the command line

How to access them?

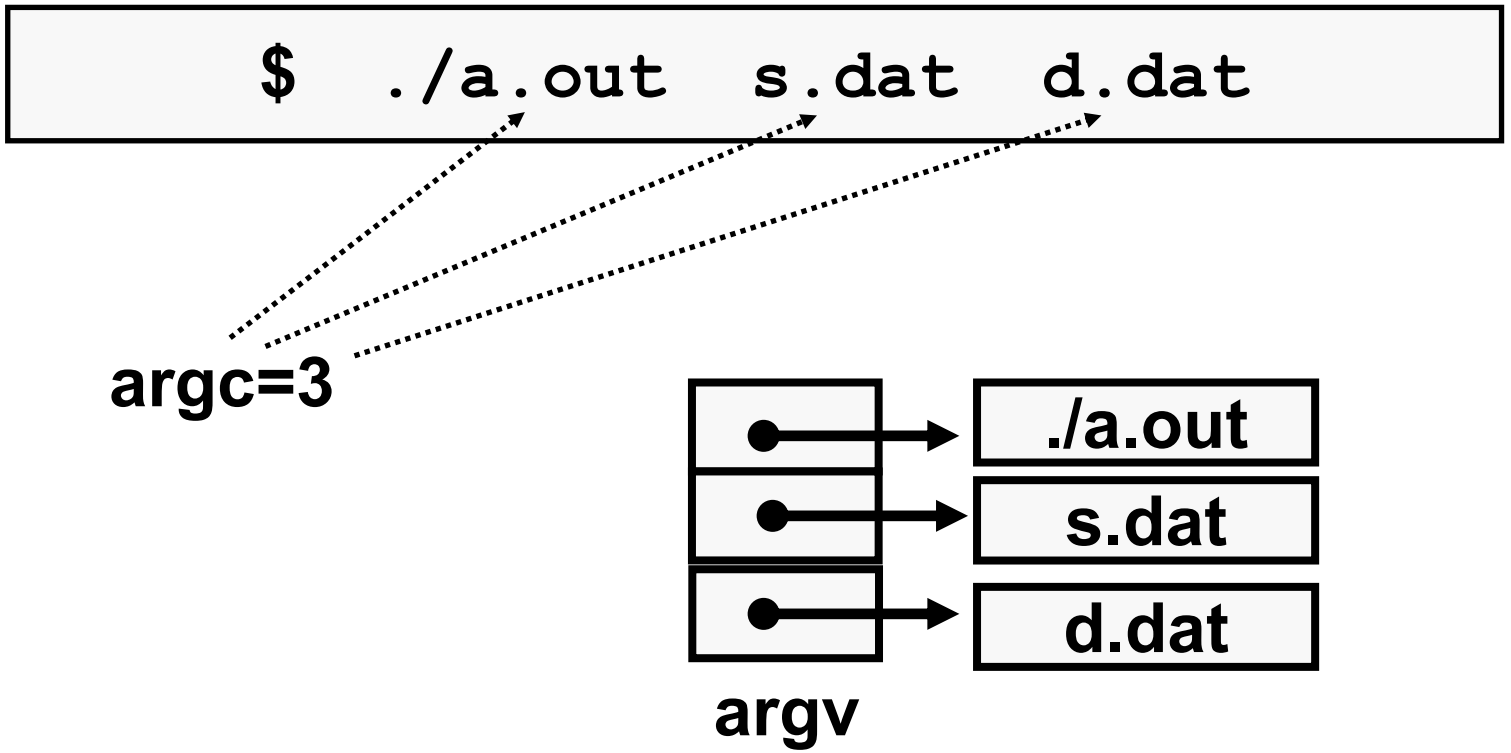
```
int main (int argc, char *argv[]);
```



The parameters are filled up with the command line arguments typed when the program is run

They can now be accessed inside main just like any other variable

Example: Contd.



argv[0] = "./a.out" argv[1] = "s.dat" argv[2] = "d.dat"

Contd.

- Still there is a problem
  - All the arguments are passed as strings in argv[ ]
  - But the intention may have been to pass an int/float etc.
- Solution: Use sscanf()
  - Exactly same as scanf, just reads from a string (char *) instead of from the keyboard
  - The first parameter is the string pointer, the next two parameters are exactly the same as scanf

Example

- Write a program that takes as command line arguments 2 integers, and prints their sum

```
int main(int argc, char *argv[ ])
{
    int i, n1, n2;
    printf("No. of arg is %d\n", argc);
    for (i=0; i<argc; ++i)
        printf("%s\n", argv[i]);
    sscanf(argv[1], "%d", &n1);
    sscanf(argv[2], "%d", &n2);
    printf("Sum is %d\n", n1 + n2);
    return 0;
}
```

```
$ ./a.out 32  54
No. of arg is 3
./a.out
32
54
Sum is 86
```