

Getting started with C

```
#include <stdlib.h>
#include <stdio.h>

int main(int argc, char** argv){

    char name[1000];
    char game[1000];
    printf("State your name:\n");
    gets(name);
    printf("State your business:\n");
    gets(game);
    printf("%s is the name and %s is the game.\n",name,game);
}
```

Much of C syntax is familiar if you know java

```
if (number<0){  
    printf("Your number is negative.\n");  
}  
else{  
    printf("Your number is non-negative.\n");  
}
```

Much of C syntax is familiar if you know java

```
double g(double x){  
    return x*x+3*x-1;  
}
```

```
int main(int argc, char** argv){  
    double x;  
    double y;  
    printf("Enter x: \n");  
    scanf("%lf",&x);  
    y=g(x);  
    printf("g(x)=%lf\n",y);  
}
```

Things to note

- ▶ All variables must be declared before they are used.
- ▶ All variables have a type. Types define a) How much memory to reserve for this variable and b) How to store the value of the variable in the memory reserved.

Much of C syntax is familiar if you know java

```
int main(int argc, char** argv){  
    int i;  
    int f1=0;  
    int f2=1;  
    int f3=0;  
    for (i=0;i<10;i++){  
        f3=f2+f1;  
        printf("The %d Fibonacci number is %d\n",i,f3);  
        f1=f2;  
        f2=f3;  
    }  
}
```

Much of C syntax is familiar if you know java

```
double max;
int i=0; int f1=0; int f2=1; int f3=0;
printf("Enter value past which you do not care about Fibonacci\n");
scanf("%lf",&max);
printf("max is %f\n",max);
i=2;
while (f3<max){
    printf("The %d Fibonacci number is %d\n",i,f3);
    f1=f2;
    f2=f3;
    f3=f1+f2;
    i=i+1;
}
```

Much of C++ syntax is familiar if you know java

See `Example3.c`

C is a compiled language

- ▶ If your file is in `foo.c` just use
`$ gcc foo.c -o foo`
- ▶ This compiles the code in `foo.c` and creates an executable named `foo`.

References

- ▶ C language
 - ▶ <http://www.cprogramming.com/tutorial/c-tutorial.html>
- ▶ Format specifiers
 - ▶ <http://www.codingunit.com/printf-format-specifiers-format-conversions-and-formatted-output>
- ▶ Reading and writing from the console
 - ▶ http://en.wikibooks.org/wiki/A_Little_C_Primer/C_Console_IO