DASL 130 – C Programming Course

Lecture 3

Switch Statement

```
switch(case){
  label:
      code
  break;
  label2:
      code
  break;
  default:
      code
}
```

Function Basics

- return type name (argument list)
- return type
  - void (for none) or int, char, double, etc
- name
  - starts with a letter, no special characters or keyword like a variable
- argument list
  - int input, double input2, char input3 etc

Function Prototype

- Same as function declaration, just no contents
- Goes before main

```
int functionName(int input);
void main(int input2){
    int var = functionName(4.0);
}
int functionName(int input){
    return input*2;
}
```

Pass by Value / Reference

- By Value – normal method, does not alter variable contents
- By Reference – passes memory location

```
int function(int *refvar){
    (*refvar) +=2;
}
```

Recursion

- Functions that call themselves
- Fibonacci sequence $F(n) = F(n-1) + F(n-2)$

```
          1
       1     1
      1   2   1
    1   3    3   1
  1   4    6   4    1
```

Math

- #include <math.h>
- sin(angle);
- cos(angle);
- log(natural);
- log10(base10);
- pow(base, exponent);
- sqrt(input);
- more…