

16.216: ECE Application Programming

Fall 2014

Lecture 14: Key Questions
October 3, 2014

Finishing PE2: Flowchart/code for n!

Finishing PE2: Flowchart/code for 2ⁿ

1. Describe the basic use and syntax of functions, including return types and arguments.

2. What is a function prototype? When and why is it necessary?

3. Explain the idea of scope and how it relates to functions. Also, explain what happens when function arguments are passed by value.

You may wish to refer to the following example:

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

double hyp(double a, double b);

void main()
{
    double x,y,h;
    printf("Enter two legs of triangle: ");
    scanf("%lf %lf",&x,&y);
    h=hyp(x,y);
    printf("Trgle w legs %lf and %lf has hyp of %lf\n",
           x,y,h);
}

double hyp(double a, double b)
{
    double sum, result;
    sum = a*a + b*b;
    result = sqrt(sum);
    return result;
}
```