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**Take Home: Quiz 3 (15 pts) – Modular Design & Functions in C**

**Submit a hard-copy of your solutions in lab this week!**

1. (3 pts) What is a function? Explain.
   A function is a block of code that executes when it is called from another function such as main(). It can take parameters and return data to wherever it was called such as x = myFunction(3,2);

2. (3 pts) What are advantages to defining a function? Explain.

   Your program can be compartmentalized. Not everything needs to be run in main. Functions can be reused so anything repetitive should be defined in a function so you only have to type it once. Also you can use defined functions in other projects (code reuse).

3. (3 pts) Provide the prototype for a function called `is_odd()` that accepts one integer parameter, called `num`, and returns the number *1* if the number is *odd* or *0* if it is *even*.

   ```
   int is_odd(int num);
   ```

4. (6 pts – 1 pt for the header, 1 pt for variable declarations, 2 pts for computation, 2 pts for return value) Provide the function definition for `is_odd()`. Also, be sure to provide the function header for `is_odd()`.

```
int is_odd(int num)
{
    if(num % 2 ==0)
    {
        return 0;
    }
    else
    {
        return 1;
    }
}
```