11/11/2014 prime.c.md

```
#include <stdio.h>
int get_a_number();
int is_zero(int);
int is_prime(int );
int is_divisible_by(int d, int divi);
int is_valid(int divisor, int n);
int main()
{
    const char* number_is_prime = "%d is Prime.";
    const char* number_is_not_prime = "%d is not Prime.";
    const char* cannot_find_prime = "You cannot find prime for Zero";
    int input = get_a_number();
    if (is_zero(input)) {
        printf (cannot_find_prime);
        return 0;
    }
    if (is prime(input) )
        printf (number_is_prime, input);
    else
        printf (number_is_not_prime, input);
    return 0;
}
int is_prime (int number) {
    int divisor;
    int is_prime = 1;
    for (divisor = 2; is valid(divisor, number); divisor++) {
```

11/11/2014 prime.c.md

```
if ( is_divisible_by (divisor, number)) {
            is_prime = 0;
            break;
        }
    }
    return is_prime;
}
int is_divisible_by(int divisor, int dividend)
{
    // return dividend % divisor == 0? 1 : 0;
    int quotient = dividend / divisor;
    int rem = dividend - (quotient * divisor);
    if (rem == 0) return 1;
    return 0;
}
int is_valid(divisor, n) {
    return (divisor < n/2);</pre>
}
int get_a_number() {
    int n;
    scanf ("%d", &n);
    return n;
}
int is_zero(int n) {
    return (n == 0);
}
```