```c
/*
 * C program by Dave Russillo. Made for CS1311.
 * Uses recursion for quadratic function.
 */
#include <stdio.h>


// f(x) = 4x^2 + 2x + 7
int f_normal(int x) {
  return 4*x*x + 2*x + 7;
}

// f(z) = f2(z-1) + 8z - 2, f(0) = 7
int f_recursive(int z) {
  if(z == 0) {
    return 7;
  } else {
    return f_recursive(z-1) + 8*z - 2;
  }
}


int main(void) {
  char restart = 'y';
  int num = 0;

  while(restart == 'y' || restart == 'Y') {
    while(num <= 0) {
      printf("Enter positive integer value: ");
      scanf("%d", &num);
    }
    printf("f(%d) = %d  (non-recursive) \n", num, f_normal(num));
    printf("f(%d) = %d  (recursive) \n", num, f_recursive(num));
    num = 0;  // reset num
    printf("Would you like to restart? (y/n) ");
    scanf(" %c", &restart);
  }

  return 0;
}
```

```
Enter positive integer value: -3
Enter positive integer value: 7
f(7) = 217  (non-recursive)
f(7) = 217  (recursive)
Would you like to restart? (y/n) y
Enter positive integer value: 11
f(11) = 513  (non-recursive)
f(11) = 513  (recursive)
Would you like to restart? (y/n) n

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Process exited after 7.204 seconds with return value 0
Press any key to continue . . .
```