```c
1: // C - Program to calculate the integral using Simpson 3/8 Method.
2:
3: #include <stdio.h>
4: #include <math.h>
5:
6: //Definition of a function => f(x^3)
7: double f(double x){
8:     double s = x*x*x;
9:     return s;
10: }
11:
12: void main(){
13:     //Variables and their initialization.
14:     double a, b; int n, i;
15:     double s3sum = 0.0;
16:
17:     //Inputs
18:     printf("Enter Lower Limit (a): ");
19:     scanf("%lf", &a);
20:     printf("Enter Upper Limit (b): ");
21:     scanf("%lf", &b);
22:     printf("Enter No. of strips in multiple of 3 i.e (n): ");
23:     scanf("%d", &n);
24:
25:     //Calculation of width of rectangular strips.
26:     double h = fabs(b - a)/n;
27:
28:     //Calculation using for loop.
29:     for (i = 1; i < n; i++){
30:         if (i % 3 == 0){
31:             s3sum += 2*f(a+(i*h));
32:         }
33:         else{
34:             s3sum += 3*f(a+(i*h));
35:         }
36:     }
37:
38:     //Final value.
39:     double integral = (3*h/8)*(f(a)+f(b)+s3sum);
40:
41:     //Output
42:     printf("Required integral using Simpson 3/8 rule  = %lf",
    integral);
43: }
```