**//Simpson's 1/3 Rule**

#define f(x) 1/(1+x\*x)

int main()

{

float ll, ul, integration=0,h,k;

int i, sub;

printf("Enter lower limit of integration: ");

scanf("%f", &ll);

printf("Enter upper limit of integration: ");

scanf("%f", &ul);

printf("Enter number of sub intervals: ");

scanf("%d", &sub);

h = (ul - ll)/sub;

integration = f(ll) + f(ul);

for(i=1; i<= sub-1; i++)

{

k = ll + i\*h;

if(i%2==0)

{

integration = integration + 2 \* f(k);

}

else

{

integration = integration + 4 \* f(k);

}

}

integration = integration \* h/3;

printf("\nRequired value of integration is: %.3f", integration);

return 0;

}