

// Write a program for Integration by Simpson's Rule//

```
#include<stdio.h>
#include<conio.h>
double y(double x)
{
return 1/(1+x*x);
}
void main()
{
int i,n;
double h,x0,xn,s;
clrscr();
printf("enter x0,xn and no. of subinterval\n");
scanf("%lf%lf%d",&x0,&xn,&n);
h=(xn-x0)/n;
s=y(x0)+y(xn)+4*y(x0+h);
for(i=3;i<=n-1;i+=2)
s+=4*y(x0+i*h)+2*y(x0+(i-1)*h);
printf("value of integral is=%6.4lf\n",(h/3)*s);
getch();
}
```

Output:-

Enter x0,xn and no. of subinterval

0 6 6

Value of integration = 1.3662