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#Name=Anmol Dobhal  
#Roll No.= 2130139  
#SIMPSON'S 1/3 RULE
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```
import numpy as np  
def fun(x):  
    y1=x*x    #any given func  
    return y1  
a=int(input("enter lower limit:"))  
b=int(input("enter upper limit:"))  
n=int(input("enter number of intervals:"))  
h=(b-a)/(n-1)
```

```
x=np.zeros(n)  
y=np.zeros(n)  
for i in range(n):  
    x[i]=a+i*h  
    y[i]=fun(x[i])  
s=y[0]+y[n-1]  
for i in range(1,n-1):  
    if i%2==0:  
        s+=2*(y[i])  
    else:  
        s+=4*(y[i])  
val=(s*h)/3  
print("value by integration is:",val)
```

```
#Output
```

```
'''enter lower limit:1  
enter upper limit:10  
enter number of intervals:10  
value by integration is: 303.0'''
```

