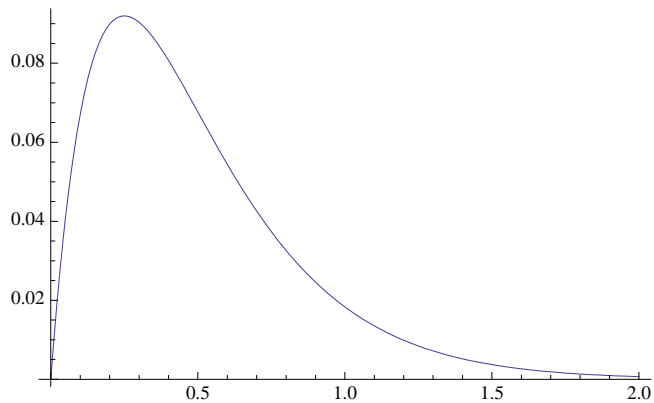


```
(** SPLINE NATURALE **)
```

```
a = 0.0; b = 2.0;  
f[x_] := x * Exp[-4 x]  
Plot[f[x], {x, a, b}]
```



```
n = 10;  
x[0] = a;  
x[n] = b;  
dx = (b - a) / n;  
Do[x[k] = x[k - 1] + dx, {k, 1, n - 1}]  
Do[a[k] = f[x[k]]; h[k] = dx, {k, 0, n}]  
pts = Table[{x[k], a[k]}, {k, 0, n}]  
Do[alpha[i] = 3. * (a[i + 1] - a[i]) - 3. * (a[i] - a[i - 1]), {i, 1, n - 1}]  
{ {0., 0.}, {0.2, 0.0898658}, {0.4, 0.0807586}, {0.6, 0.0544308},  
  {0.8, 0.0326098}, {1., 0.0183156}, {1.2, 0.0098757}, {1.4, 0.00517701},  
  {1.6, 0.00265849}, {1.8, 0.00134385}, {2., 0.000670925}}
```