/* LAGRANGES INTERPOLATION*/

Progarm for Lagrange Interpolation in python

```python
import math
# Input section
x=[];y=[];
n=int(input("Enter number of entries: " ))
x=list(map(float,input("Enter x values: ").split()))
y=list(map(float,input("Enter y values: ").split()))
xr=float(input("Enter xr at yr required: " ))
sum=0
for i in range(0, n):
 prod=1.0
 for j in range(0, n):
  if j!=i:
    prod=prod*(xr-x[j])/(x[i]-x[j])
 sum=sum+prod*y[i]
 yr=sum;
print("At x = %.3f, y = %.3f"%(xr,yr))
```

Result:

Enter number of entries: 4

Enter x values: 0 1 4 6

Enter y values: 1 -1 1 -1

Enter xr at yr required: 2

At x = 2.000, y = -1.000