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#Backward path difference series
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```
import numpy as np
n=int(input("enter the value of data point ="))
x=np.zeros(n)
y=np.zeros((n,n))

for i in range(n):
    x[i]=int(input("enter the value x["+str(i)+""]="))
    y[i][0]=int(input("enter the value y["+str(i)+""]="))

for i in range(1,n):
    for j in range(n-1,i-2,-1):
        y[j][i]=y[j][i-1]-y[j-1][i-1]

print("x",end='\t')
print("y",end='\t')
for i in range(1,n):
    print("d"+ str(i)+"y",end='\t')
print("\n")
for i in range(0,n):
    print(x[i],end='\t')
    for j in range(0,i+1):
        print(y[i][j],end='\t')
    print("\n")
```

#OUTPUT

```
enter the value of data point =3
enter the value x[0]=1
enter the value y[0]=2
enter the value x[1]=3
enter the value y[1]=4
enter the value x[2]=5
enter the value y[2]=6
x    y    d1y d2y
```

```
1.0  2.0
```

```
3.0  4.0  2.0
```

```
5.0  6.0  2.0  0.0
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