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## Interpolation Polynomial with Dart

Contoh Input/Output

Format input:

```
n-1
x1 y1
x2 y2
...
xn-1 yn-1
xn yn
```

Format output:

```
ax^n + bx^{n-1} + ... + px + q
```

yang berarti  $y = ax^n + bx^{n-1} + \dots + px + q$

dengan ^ merupakan pangkat yang berarti  $ax^{**n} = ax^n$

$N = n - 1$

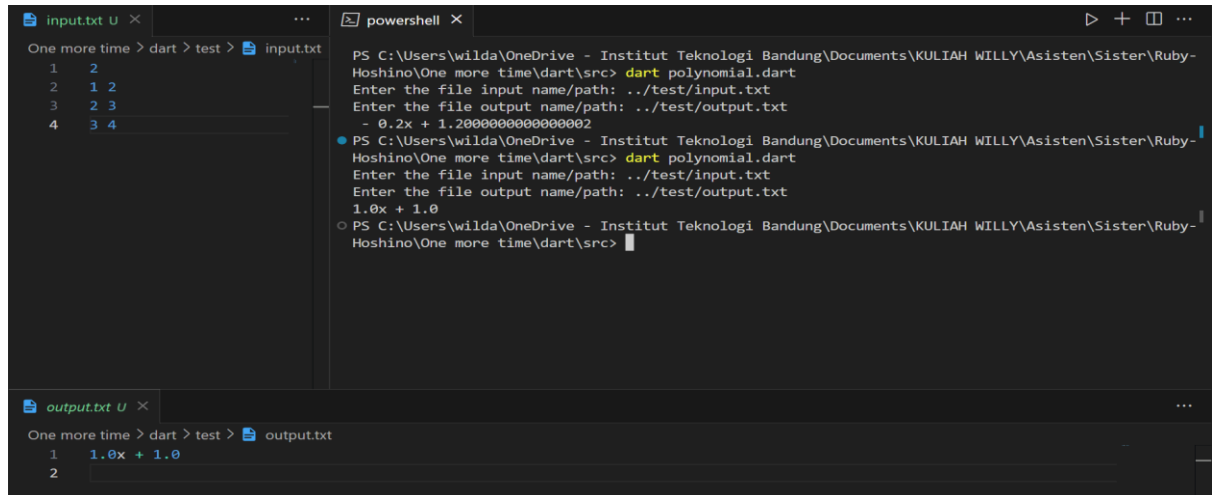
### 1. $N = 1$

```
input.txt U x
One more time > dart > test > input.txt
1 1
2 1 1
3 -4 2
4

powershell x
PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
- 0.2x + 1.2000000000000002
PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-Hoshino\One more time\dart\src>

output.txt U x
One more time > dart > test > output.txt
1 - 0.2x + 1.2000000000000002
2
```

## 2. $N = 2$

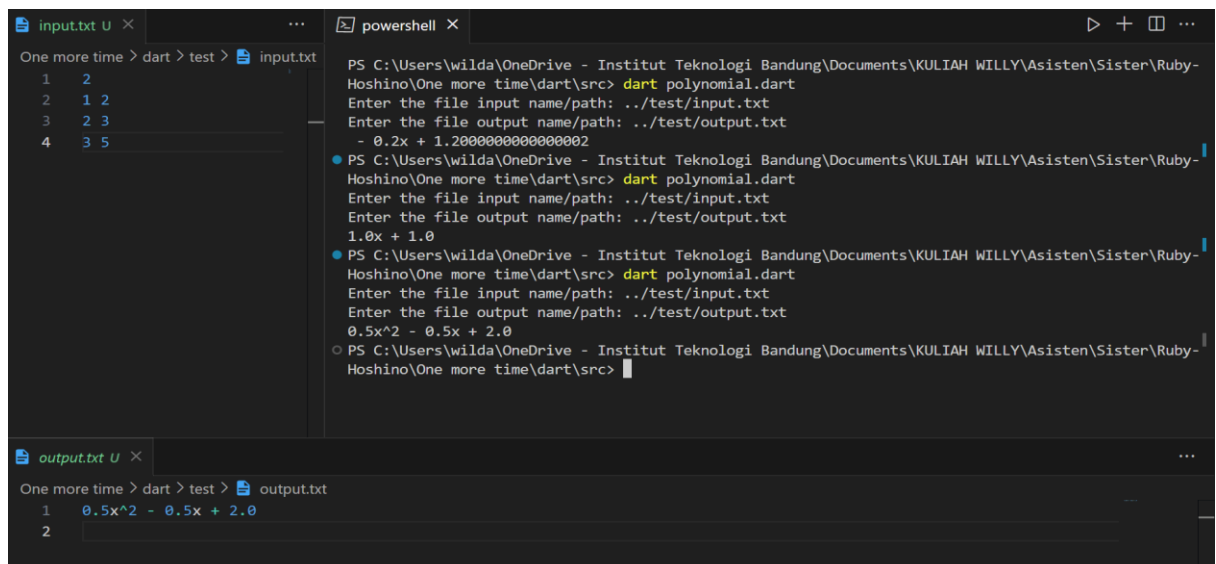


```
input.txt U x
One more time > dart > test > input.txt
1 2
2 1 2
3 2 3
4 3 4

output.txt U x
One more time > dart > test > output.txt
1 1.0x + 1.0
2
```

```
PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
- 0.2x + 1.2000000000000002
• PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
1.0x + 1.0
○ PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-Hoshino\One more time\dart\src>
```

## 3. $N = 2$

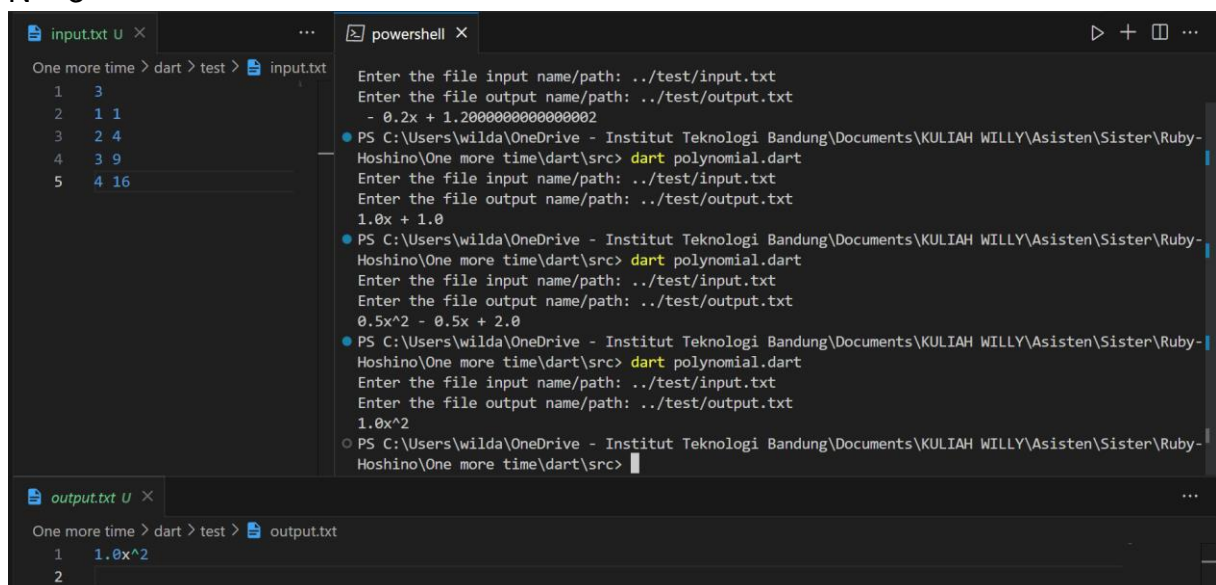


```
input.txt U x
One more time > dart > test > input.txt
1 2
2 1 2
3 2 3
4 3 5

output.txt U x
One more time > dart > test > output.txt
1 0.5x^2 - 0.5x + 2.0
2
```

```
PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
- 0.2x + 1.2000000000000002
• PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
1.0x + 1.0
• PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
0.5x^2 - 0.5x + 2.0
○ PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-Hoshino\One more time\dart\src>
```

## 4. $N = 3$



```
input.txt U x
One more time > dart > test > input.txt
1 3
2 1 1
3 2 4
4 3 9
5 4 16

output.txt U x
One more time > dart > test > output.txt
1 1.0x^2
2
```

```
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
- 0.2x + 1.2000000000000002
• PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
1.0x + 1.0
• PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
0.5x^2 - 0.5x + 2.0
• PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
1.0x^2
○ PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-Hoshino\One more time\dart\src>
```

## 5. N = 3

```

input.txt U × ... powershell ×
One more time > dart > test > input.txt
1 3
2 1 2
3 2 3
4 3 4
5 4 5

Enter the file output name/path: ../test/output.txt
0.5x^2 - 0.5x + 2.0
• PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
1.0x^2
• PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
1.000000000000018x + 1.0
○ PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src>

output.txt U ×
One more time > dart > test > output.txt
1 1.000000000000018x + 1.0
2

```

## 6. N = 3

```

input.txt U × ... powershell ×
One more time > dart > test > input.txt
1 3
2 1 10
3 2 2
4 3 5
5 4 1

Enter the file output name/path: ../test/output.txt
1.0x^2
• PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
1.000000000000018x + 1.0
• PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
- 3.0x^3 + 23.5x^2 - 57.49999999999999x + 47.0
○ PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src>

output.txt U ×
One more time > dart > test > output.txt
1 - 3.0x^3 + 23.5x^2 - 57.49999999999999x + 47.0
2

```

## 7. N = 4

```

input.txt U × ... dart ×
One more time > dart > test > input.txt
1 4
2 0 1
3 1 1
4 2 1
5 3 1
6 4 1

Enter the file output name/path: ../test/output.txt
1.000000000000018x + 1.0
• PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
- 3.0x^3 + 23.5x^2 - 57.49999999999999x + 47.0
• PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
1.0
○ PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src>

output.txt U ×
One more time > dart > test > output.txt
1 1.0
2

```

## 8. N = 4

```

input.txt U ×
One more time > dart > test > input.txt
1 4
2 0 0
3 1 0
4 2 0
5 3 0
6 4 1

powershell ×
Enter the file output name/path: ../test/output.txt
- 3.0x^3 + 23.5x^2 - 57.4999999999999x + 47.0
PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
1.0
PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
0.0416666666666664x^4 - 0.25x^3 + 0.458333333333333x^2 - 0.25x
PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src>

output.txt U ×
One more time > dart > test > output.txt
1 0.0416666666666664x^4 - 0.25x^3 + 0.458333333333333x^2 - 0.25x
2

```

## 9. N = 7

```

input.txt U ×
One more time > dart > test > input.txt
1 7
2 0 0
3 1 0
4 2 0
5 3 0
6 4 1
7 5 1
8 6 1
9 7 1
10

powershell ×
1.0
PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
0.0416666666666664x^4 - 0.25x^3 + 0.458333333333333x^2 - 0.25x
PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
- 0.003968253968253967x^7 + 0.0972222222222222x^6 - 0.936111111111107x^5 + 4.47222222222222x^4 -
10.9861111111111x^3 + 12.9305555555555x^2 - 5.57380952380952x
PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src>

output.txt U ×
One more time > dart > test > output.txt
1 - 0.003968253968253967x^7 + 0.0972222222222222x^6 - 0.936111111111107x^5 + 4.47222222222222x^4 - 10.9861111111
2

```

## 10. N = 10

```

input.txt U ×
One more time > dart > test > input.txt
1 10
2 1 10
3 2 2
4 3 5
5 4 1
6 6 1
7 -10 -10
8 0 0
9 18 100
10 -100 100
11 200 10
12 150 -150

powershell ×
PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src> dart polynomial.dart
Enter the file input name/path: ../test/input.txt
Enter the file output name/path: ../test/output.txt
- 0.0025565895341109024x^7 + 0.05517289041481031x^6 - 0.005976425398491499x^5 - 4.590928475760433x
^4 + 28.332063291449046x^3 - 63.31933685938633x^2 + 49.53156240504624x
PS C:\Users\wilda\OneDrive - Institut Teknologi Bandung\Documents\KULIAH WILLY\Asisten\Sister\Ruby-
Hoshino\One more time\dart\src>

output.txt U ×
One more time > dart > test > output.txt
1 - 0.0025565895341109024x^7 + 0.05517289041481031x^6 - 0.005976425398491499x^5 - 4.590928475760433x^4 + 28.332063
2

```