

# TUTORIAL MENJALANKAN INTEGRAL

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Program ini menggunakan integral tentu dengan jumlah Riemann trapesium. Program ini menggunakan input fungsi polinomial dan derajatnya pada pembilang dan penyebut input jumlah partisi integral Riemann.

Contoh program:

1. Numerator degree = 3  
Denominator degree = 0  
Lower bound = 2  
Upper bound = 3  
Jumlah partisi = 20

$$\int_2^3 3x^3 - 5x + 2 dx$$

Equivalen dengan

$$\int_2^3 \frac{3x^3 + 0x^2 - 5x^1 + 2x^0}{1x^0} dx$$

Sehingga inputnya adalah seperti ini

```
Welcome to Calculator++
Insert
'c' for basic caclulator
'i' for integral calculator
'e' for exit
Insert Command: i

You are about to define a function
Please define a numerator
Insert numerator degree: 3
Insert coefficient of x^3: 3
Insert coefficient of x^2: 0
Insert coefficient of x^1: -5
Insert coefficient of x^0: 2

Please define a denominator
Insert denominator degree: 0
Insert coefficient of x^0: 1

Insert lower bound: 2
Insert upper bound: 3

Insert amount of partition: 20

Result = 38.2594
```

2. Numerator degree = 0  
Denominator degree = 3  
Lower bound = 1  
Upper bound = 3  
Jumlah partisi = 38

$$\int_1^3 \frac{1}{x^3 + 5x^2} dx$$

Ekuivalen dengan

$$\int_1^3 \frac{1x^0}{1x^3 + 5x^2 + 0x^1 + 0x^0} dx$$

Inputnya adalah seperti ini

```
Welcome to Calculator++
Insert
'c' for basic caclulator
'i' for integral calculator
'e' for exit
Insert Command: i

You are about to define a function
Please define a numerator
Insert numerator degree: 0
Insert coefficient of x^0: 1

Please define a denominator
Insert denominator degree: 3
Insert coefficient of x^3: 1
Insert coefficient of x^2: 5
Insert coefficient of x^1: 0
Insert coefficient of x^0: 0

Insert lower bound: 1
Insert upper bound: 3

Insert amount of partition: 38

Result = 0.100977
```

3. Numerator degree = 2  
Denominator degree = 4  
Lower bound = -3  
Upper bound = 5  
Jumlah partisi = 999

$$\int_{-3}^5 \frac{x^2}{x^4 + 5x^2} dx$$

Ekuivalen dengan

$$\int_{-3}^5 \frac{1x^2 + 0x^1 + 0x^0}{1x^4 + 0x^3 + 5x^2 + 0x^1 + 0x^0} dx$$

Inputnya adalah seperti ini

```
Welcome to Calculator++
Insert
'c' for basic caclulator
'i' for integral calculator
'e' for exit
Insert Command: i

You are about to define a function
Please define a numerator
Insert numerator degree: 2
Insert coefficient of x^2: 1
Insert coefficient of x^1: 0
Insert coefficient of x^0: 0

Please define a denominator
Insert denominator degree: 4
Insert coefficient of x^4: 1
Insert coefficient of x^3: 0
Insert coefficient of x^2: 5
Insert coefficient of x^1: 0
Insert coefficient of x^0: 0

Insert lower bound: -3
Insert upper bound: 5

Insert amount of partition: 999

Result = 0.930444
```