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Nomor 4

Biseksi

```python
from tabulate import tabulate

def f(x):
  return 4*x**3 + 7*x + 3
  # return x + 2.72 ** x

def interation(a, b):
  i = 0
  o = []
  while True:
    x = (a + b) / 2
    fx = f(x)
    fa = f(a)
    fb = f(b)
    o.append([a, b, x, fa, fb, fx, abs(b-a)])

    if abs(b-a) < 0.01 or i == 1000:
      break

    if fa * fx < 0:
      b = x
    else :
      a = x

    i += 1
  return o

def main():
  a = -0.5
  b = 0
  head = ["a", "b", "x", "f(a)", "f(b)", "f(x)", "error"]
  data = interation(a, b)
  print(tabulate(data, headers=head, tablefmt="grid"))

main()
```

Regula Falsi

```python
from tabulate import tabulate

def f(x):
  return 4*x**3 + 7*x + 3
  # return x + 2.72 ** x

def x_value(a, b, fa, fb):
  return (((a * fb) - (b * fa)) / (fb - fa))

def interation(a, b):
  i = 0
  o = []
  x_temporary = 0
  while True:
    fa = f(a)
    fb = f(b)

    x = x_value(a, b, fa, fb)

    fx = f(x)

    o.append([a, b, x, fa, fb, fx])
    print([a, b, x, fa, fb, fx])

    if fx == 0 or x == x_temporary:
      break

    if fa * fx < 0:
      b = x
    else :
      a = x

    x_temporary = x
    i += 1
  return o

def main():
  a = -0.5
  b = 0
  head = ["a", "b", "x", "f(a)", "f(b)", "f(x)"]
  data = interation(a, b)
  print(tabulate(data, headers=head, tablefmt="grid"))

main()
```