



Laporan Tugas Program

Kecerdasan Buatan

Fuzzy Logic

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Pendahuluan

Sistem Inferensi Fuzzy adalah sistem yang dapat melakukan penalaran dengan prinsip yang mirip dengan bagaimana manusia menggunakan nalarnya. Beberapa jenis Sistem Inferensi Fuzzy yang dikenal yaitu Mamdani dan Sugeno. Sistem Inferensi Fuzzy yang paling mudah dimengerti adalah Sistem Inferensi Fuzzy Mamdani, karena paling sesuai dengan sifat naluri manusia. Sistem Inferensi Fuzzy tersebut bekerja berdasarkan kaidah-kaidah linguistik dan memiliki algoritma fuzzy yang menyediakan sebuah estimasi yang akan ditimbang menggunakan analisa matematik.

Deskripsi Masalah

Diberikan suatu himpunan data berisi 30 berita dengan dua atribut: Emosi dan Provokasi yang bernilai 0 sampai 100, serta atribut kelas Hoax yang bernilai “Ya” dan “Tidak”, seperti diilustrasikan pada tabel berikut. Gunakan dua puluh berita pertama, B01 sampai B20, sebagai acuan untuk membangun sebuah sistem penalaran berbasis fuzzy logic untuk mendeteksi apakah sepuluh berita yang belum diketahui kelasnya, B21 sampai B30 (Data Testing), adalah berita bohong (hoax) atau bukan.

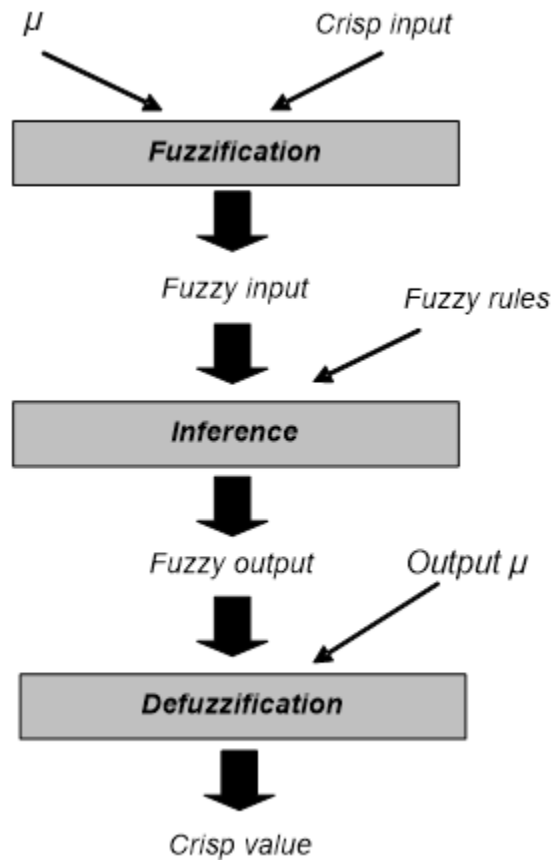
Berita	Emosi	Provokasi	Hoax
B01	97	74	Ya
B02	36	85	Ya
B03	63	43	Tidak
B04	82	90	Ya
B05	71	25	Tidak
B06	79	81	Ya
B07	55	62	Tidak
B08	57	45	Tidak
B09	40	65	Tidak
B10	57	45	Tidak
B11	77	70	Ya
B12	68	75	Ya
B13	60	70	Tidak
B14	82	90	Ya
B15	40	85	Tidak
B16	80	68	Ya
B17	60	72	Tidak
B18	50	95	Ya
B19	100	18	Tidak
B20	11	99	Ya
B21	58	63	
B22	68	70	
B23	64	66	
B24	57	77	
B25	77	55	
B26	98	64	
B27	91	59	

B28	50	95	
B29	95	55	
B30	27	79	

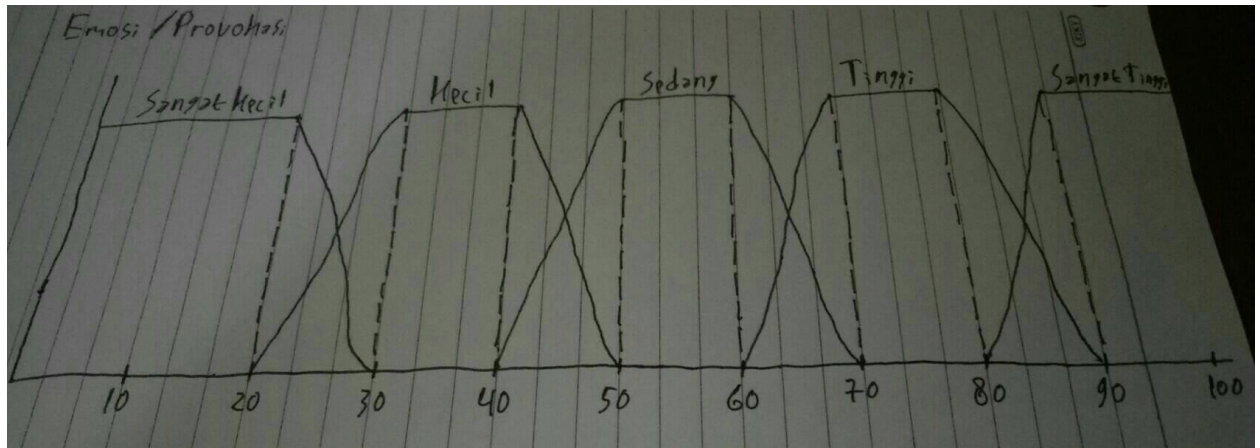
Rancangan Metode

Metode yang digunakan untuk memecahkan masalah yang ada adalah dengan menggunakan metode **Fuzzy Inference System** dan menggunakan **Inferensi Sugeno**. Tahap-tahap pengerjaan nya antara lain :

1. Fuzzyfikasi (*Crisp Input*)
2. Inferensi (*Fuzzy Rules, y^**)
3. Deffuzification (*Crisp Output*)



1. Fuzzyfication Emosi



$\mu_{\text{sangat kecil}}$:

$$1; x \leq 0$$

$$-(x-30)/30-20; 20 < x < 30$$

$$1; x \geq 20$$

μ_{kecil} :

$$0; x \leq 20 \text{ and } x \geq 50$$

$$(x-20)/30-20; 20 < x < 30$$

$$1; 30 \leq x \leq 40$$

$$-(x-50)/40-50; 40 < x < 50$$

μ_{sedang} :

$$0; x \leq 40 \text{ and } x \geq 70$$

$$(x-40)/50-40; 40 < x < 50$$

$$1; 50 \leq x \leq 60$$

$$-(x-70)/70-60; 60 < x < 70$$

μ_{tinggi} :

$0; x \leq 60$ and $x \geq 90$

$x-60/60-50; 40 < x < 50$

$1; 50 \leq x \leq 60$

$-(x-90)/90-80; 80 < x < 90$

$\mu_{sangat tinggi}$:

$0; x \leq 80$

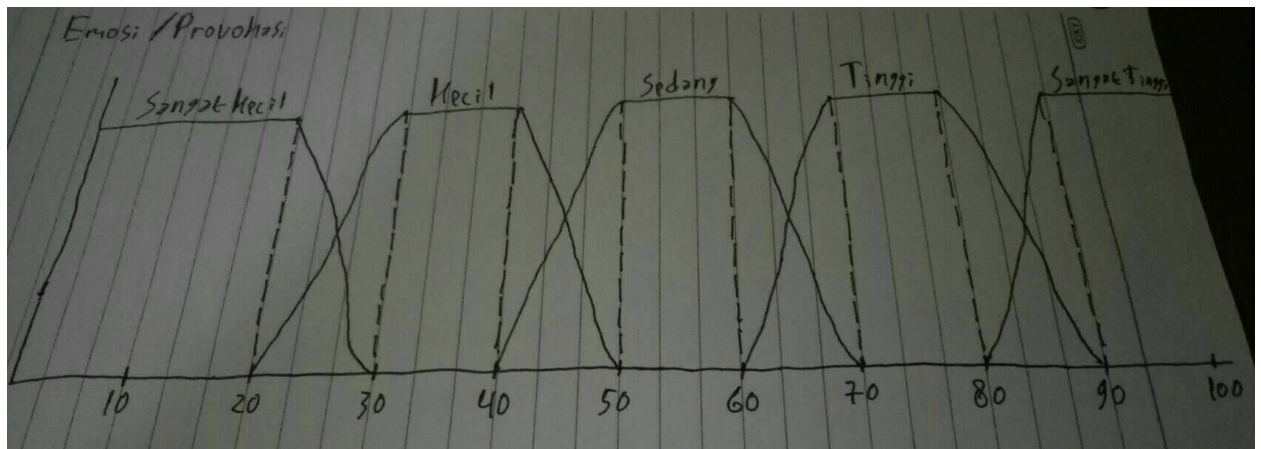
$x-80/90-80 ; 80 < x < 90$

$1; 90 \leq x \leq 100$

No	Emosi	Sangat Rendah	Sangat kecil	Kecil	Sedang	Tinggi	Sangat tinggi
1	97	0	0	0	0	0	1
2	36	0	0	1	0	0	0
3	63	0	0	0	0.7	0.3	0
4	82	0	0	0	0	0.8	0.2
5	71	0	0	0	0	1	0
6	79	0	0	0	0	1	0
7	55	0	0	0	1	0	0
8	57	0	0	0	1	0	0
9	40	0	0	1	0	0	0
10	57	0	0	0	1	0	0
11	77	0	0	0	0	1	0
12	68	0	0	0	0.2	0.8	0
13	60	0	0	0	1	0	0
14	82	0	0	0	0	0.8	0.2
15	40	0	0	1	0	0	0
16	80	0	0	0	0	1	0
17	60	0	0	0	1	0	0
18	50	0	0	0	1	0	0
19	100	0	0	0	0	0	1
20	11	0	1.	0	0	0	0
21	58	0	0	0	1	0	0
22	68	0	0	0	0.2	0.8	0

23	64	0	0	0	0.6	0.4	0
24	57	0	0	0	1	0	0
25	77	0	0	0	0	1	0
26	98	0	0	0	0	0	1
27	91	0	0	0	0	0	1
28	50	0	0	0	1	0	0
29	95	0	0	0	0	0	1
30	27	0	0.3	0.7	0	0	0

Provokasi



$\mu_{\text{sangat kecil}}$:

$$1; x \leq 0$$

$$-(x-30)/30-20; 20 < x < 30$$

$$1; x \geq 20$$

μ_{kecil} :

$$0; x \leq 20 \text{ and } x \geq 50$$

$$x-20/30-20; 20 < x < 30$$

$$1; 30 \leq x \leq 40$$

$$-(x-50)/40-50; 40 < x < 50$$

μ_{sedang} :

$$0; x \leq 40 \text{ and } x \geq 70$$

$$x-40/50-40; 40 < x < 50$$

$$1; 50 \leq x \leq 60$$

$$-(x-70)/70-60; 60 < x < 70$$

μ_{tinggi} :

$$0; x \leq 60 \text{ and } x \geq 90$$

$$x-60/60-50; 40 < x < 50$$

$$1; 50 \leq x \leq 60$$

$$-(x-90)/90-80; 80 < x < 90$$

$\mu_{\text{sangat tinggi}}$:

$$0; x \leq 80$$

$$x-80/90-80; 80 < x < 90$$

$$1; 90 \leq x \leq 100$$

μ_{tinggi} :

$$0; x \leq 60 \text{ and } x \geq 90$$

$$x-60/60-50; 40 < x < 50$$

$$1; 50 \leq x \leq 60$$

$$-(x-90)/90-80; 80 < x < 90$$

$\mu_{\text{sangat tinggi}}$:

$$0; x \leq 80$$

$$x-80/90-80; 80 < x < 90$$

$$1; 90 \leq x \leq 100$$

No	Provokasi	Sangat Kecil	Kecil	Sedang	Tinggi	Sangat tinggi
1	74	0	0	0	1	0
2	85	0	0	0	0.5	0.5
3	43	0	0.7	0.3	0	0
4	90	0	0	0	0	1
5	25	0.5	0.5	0	0	0
6	81	0	0	0	0.9	0.1
7	62	0	0	0.8	0.2	0
8	45	0	0.5	0.5	0	0
9	65	0	0	0.5	0.5	0
10	45	0	0	0.5	0.5	0
11	70	0	0	0	1	0
12	75	0	0	0	1	0
13	70	0	0	0	1	0
14	90	0	0	0	0	1
15	85	0	0	0	0	1
16	68	0	0	0.2	0.8	0
17	72	0	0	0	0	1
18	95	0	0	0	0	1
19	18	1	0	0	0	0
20	99	0	0	0	0	1
21	63	0	0	0.7	0.3	0
22	70	0	0	0	1	0
23	66	0	0	0.4	0.6	0
24	77	0	0	0	1	0
25	55	0	0	0	1	0
26	64	0	0	0.6	0.4	0
27	59	0	0	1	0	0
28	95	0	0	0	0	1
29	55	0	0	1	0	0
30	79	0	0	0	1	0

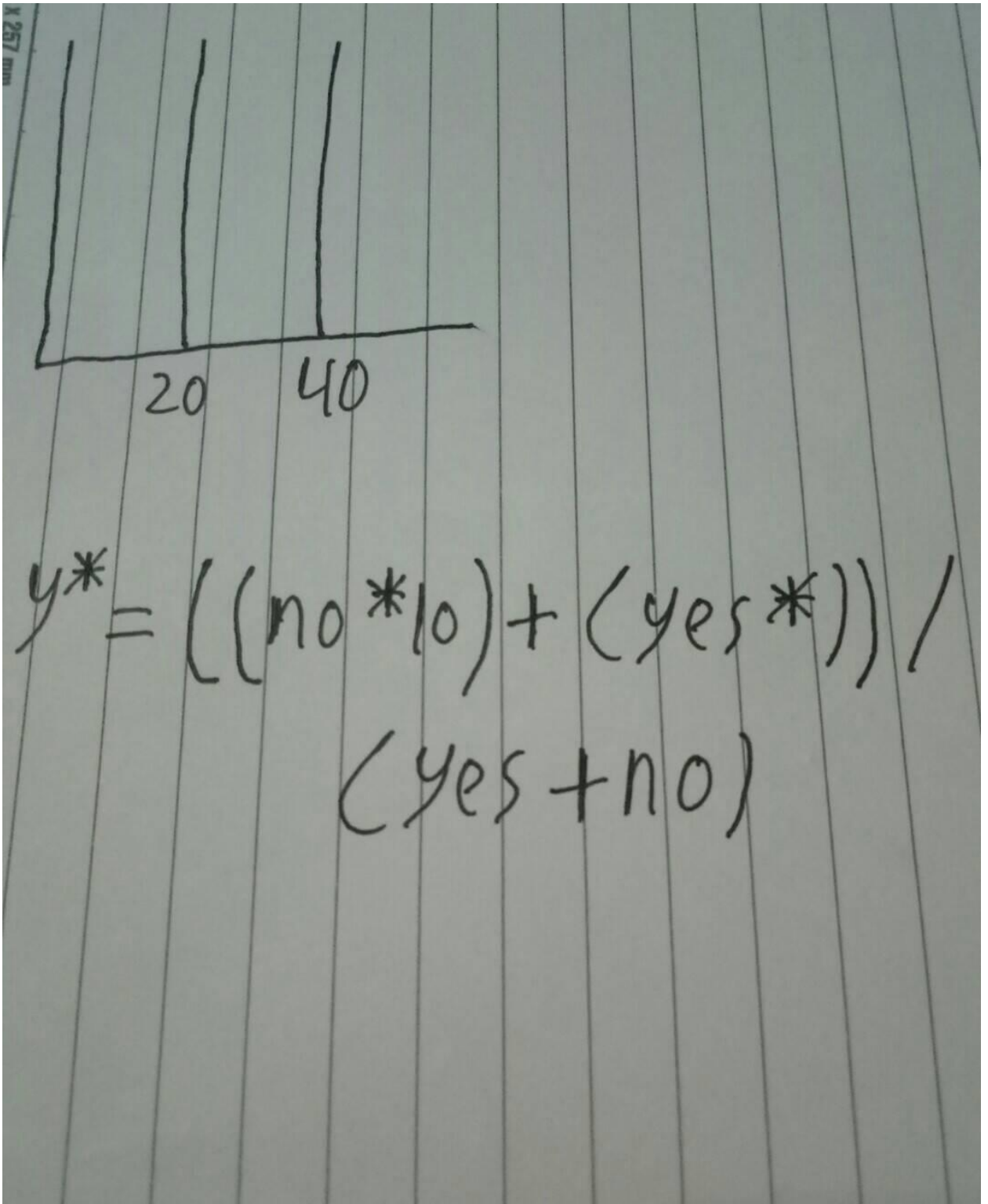
2. Inferensi

Emosi\provokasi	Sangat kecil	Kecil	Sedang	Tinggi	Sangat Tinggi
Sangat kecil	TIDAK	TIDAK	TIDAK	TIDAK	IYA
Kecil	TIDAK	TIDAK	TIDAK	TIDAK	IYA
Sedang	TIDAK	TIDAK	TIDAK	IYA	IYA
Tinggi	TIDAK	TIDAK	TIDAK	IYA	IYA
Sangat tinggi	TIDAK	TIDAK	IYA	IYA	IYA

- **Fuzzy Rule**

- IF emosi SangatTinggi and provokasi SangatKecil THEN no
- IF emosi SangatTinggi and provokasi Kecil THEN no
- IF emosi SangatTinggi and provokasi Sedang THEN yes
- IF emosi SangatTinggi and provokasi Tinggi THEN yes
- IF emosi SangatTinggi and provokasi SangatTinggi THEN yes
- IF emosi Tinggi and provokasi SangatKecil THEN no
- IF emosi Tinggi and provokasi Kecil THEN no
- IF emosi Tinggi and provokasi Sedang THEN yes
- IF emosi Tinggi and provokasi Tinggi THEN yes
- IF emosi Tinggi and provokasi SangatTinggi THEN yes
- IF emosi Sedang and provokasi SangatKecil THEN no
- IF emosi Sedang and provokasi Kecil THEN no
- IF emosi Sedang and provokasi Sedang THEN no
- IF emosi Sedang and provokasi Tinggi THEN yes
- IF emosi Sedang and provokasi SangatTinggi THEN yes
- IF emosi Kecil and provokasi SangatKecil THEN no
- IF emosi Kecil and provokasi Kecil THEN no
- IF emosi Kecil and provokasi Sedang THEN no
- IF emosi Kecil and provokasi Tinggi THEN no
- IF emosi Kecil and provokasi SangatTinggi THEN yes
- IF emosi SangatKecil and provokasi SangatKecil THEN no
- IF emosi SangatKecil and provokasi Kecil THEN no
- IF emosi SangatKecil and provokasi Sedang THEN no
- IF emosi SangatKecil and provokasi Tinggi THEN no
- IF emosi SangatKecil and provokasi SangatTinggi THEN yes

3. Defuzzification



Screenshot Output Program

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 97
Masukkan Nilai Provokasi : 74
[[1, 'SangatTinggi'], [0, 'Tinggi']]
[[1, 'Tinggi'], [0, 'SangatTinggi']]
[[40, 'Hoax']]

Process finished with exit code 0
```

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 36
Masukkan Nilai Provokasi : 85
[[1, 'Kecil'], [0, 'Sedang']]
[[0.5, 'SangatTinggi'], [0.5, 'Tinggi']]
Traceback (most recent call last):
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 300, in <module>
    hasil_pengecekan = pengecekan_sugeno(hasilemosi , hasilprovokasi)
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 44, in pengecekan_sugeno
    return (sugenol(cek1 , cek2))
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 74, in sugenol
    if(a[1] == 'Hoax' and b[1] == 'Hoax'):
IndexError: list index out of range

Process finished with exit code 1
```

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 63
Masukkan Nilai Provokasi : 43
[[0.3, 'Tinggi'], [0.7, 'Sedang']]
[[0.3, 'Sedang'], [0.7, 'Kecil']]
[0.0, 'Tidak Hoax']

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 82
Masukkan Nilai Provokasi : 90
[[0.2, 'SangatTinggi'], [0.8, 'Tinggi']]
[[1, 'SangatTinggi'], [0, 'Tinggi']]
[0.0, 'Hoax']

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 71
Masukkan Nilai Provokasi : 25
Traceback (most recent call last):
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 300, in <module>
    [[0.5, 'Kecil'], [0.5, 'SangatKecil']]
    hasil_pengecekan = pengecekan_sugeno(hasilemosi , hasilprovokasi)
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 44, in pengecekan_sugeno
    return (sugenol(cek1 , cek2))
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 74, in sugenol
    if(a[1] == 'Hoax' and b[1] == 'Hoax'):
IndexError: list index out of range

Process finished with exit code 1
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 79
Masukkan Nilai Provokasi : 81
Traceback (most recent call last):
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 300, in <module>
    hasil_pengecekan = pengecekan_sugeno(hasilemosi , hasilprovokasi)
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 44, in pengecekan_sugeno
    [[1, 'Tinggi'], [0, 'SangatTinggi']]
    return (sugenol(cek1 , cek2))
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 74, in sugenol
    if(a[1] == 'Hoax' and b[1] == 'Hoax'):
IndexError: list index out of range

Process finished with exit code 1
```

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 55
Masukkan Nilai Provokasi : 62
[[1, 'Sedang'], [0, 'Tinggi']]
Traceback (most recent call last):
[[0.2, 'Tinggi'], [0.8, 'Sedang']]
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 300, in <module>
    hasil_pengecekan = pengecekan_sugeno(hasilemosi , hasilprovokasi)
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 44, in pengecekan_sugeno
    return (sugenol(cek1 , cek2))
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 74, in sugenol
    if(a[1] == 'Hoax' and b[1] == 'Hoax'):
IndexError: list index out of range

Process finished with exit code 1
```

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 57
Masukkan Nilai Provokasi : 45
[[1, 'Sedang'], [0, 'Tinggi']]
Traceback (most recent call last):
[[0.5, 'Sedang'], [0.5, 'Kecil']]
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 300, in <module>
    hasil_pengecekan = pengecekan_sugeno(hasilemosi , hasilprovokasi)
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 44, in pengecekan_sugeno
    return (sugenol(cek1 , cek2))
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 74, in sugenol
    if(a[1] == 'Hoax' and b[1] == 'Hoax'):
IndexError: list index out of range

Process finished with exit code 1
```

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 40
Masukkan Nilai Provokasi : 65
Traceback (most recent call last):
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 300, in <module>
    [[1, 'Kecil'], [0, 'Sedang']]
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 44, in pengecekan_sugeno
    return (sugenol(cek1 , cek2))
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 74, in sugenol
    if(a[1] == 'Hoax' and b[1] == 'Hoax'):
IndexError: list index out of range

Process finished with exit code 1
```

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 57
Masukkan Nilai Provokasi : 45
[[1, 'Sedang'], [0, 'Tinggi']]
Traceback (most recent call last):
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 300, in <module>
    hasil_pengecekan = pengecekan_sugeno(hasilemosi , hasilprovokasi)
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 44, in pengecekan_sugeno
    return (sugenol(cek1 , cek2))
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 74, in sugenol
    if(a[1] == 'Hoax' and b[1] == 'Hoax'):
IndexError: list index out of range

Process finished with exit code 1
```

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 77
Masukkan Nilai Provokasi : 70
[[1, 'Tinggi'], [0, 'SangatTinggi']]
[[1, 'Tinggi'], [0, 'SangatTinggi']]
[[40, 'Hoax']]

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 68
Masukkan Nilai Provokasi : 75
[[0.8, 'Tinggi'], [0.2, 'Sedang']]
[[1, 'Tinggi'], [0, 'SangatTinggi']]
[100.0, 'Hoax']]

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 60
Masukkan Nilai Provokasi : 70
[[1, 'Sedang'], [0, 'Tinggi']]
[[1, 'Tinggi'], [0, 'SangatTinggi']]
[[40, 'Hoax']]

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 82
Masukkan Nilai Provokasi : 90
[[0.2, 'SangatTinggi'], [0.8, 'Tinggi']]
[[1, 'SangatTinggi'], [0, 'Tinggi']]
[0.0, 'Hoax']

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal


```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 40
Masukkan Nilai Provokasi : 85
[[1, 'Kecil'], [0, 'Sedang']]
[[0.5, 'SangatTinggi'], [0.5, 'Tinggi']]
Traceback (most recent call last):
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 300, in <module>
    hasil_pengecekan = pengecekan_sugeno(hasilemosi , hasilprovokasi)
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 44, in pengecekan_sugeno
    return (sugenol(cek1 , cek2))
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 74, in sugenol
    if(a[1] == 'Hoax' and b[1] == 'Hoax'):
IndexError: list index out of range

Process finished with exit code 1
```

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 80
Masukkan Nilai Provokasi : 68
[[1, 'Tinggi'], [0, 'SangatTinggi']]
Traceback (most recent call last):
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 300, in <module>
    hasil_pengecekan = pengecekan_sugeno(hasilemosi , hasilprovokasi)
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 44, in pengecekan_sugeno
    return (sugenol(cek1 , cek2))
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 74, in sugenol
    if(a[1] == 'Hoax' and b[1] == 'Hoax'):
IndexError: list index out of range

Process finished with exit code 1
```

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 60
Masukkan Nilai Provokasi : 72
[[1, 'Sedang'], [0, 'Tinggi']]
[[1, 'Tinggi'], [0, 'SangatTinggi']]
[[40, 'Hoax']]

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 50
Masukkan Nilai Provokasi : 95
[[1, 'Sedang'], [0, 'Tinggi']]
[[1, 'SangatTinggi'], [0, 'Tinggi']]
[[40, 'Hoax']]

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 100
Masukkan Nilai Provokasi : 18
[[1, 'SangatTinggi'], [0, 'Tinggi']]
[[1, 'SangatKecil'], [0, 'Kecil']]
[[20, 'Tidak Hoax']]

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 11
Masukkan Nilai Provokasi : 99
[[1, 'SangatKecil'], [0, 'Kecil']]
[[1, 'SangatTinggi'], [0, 'Tinggi']]
[[40, 'Hoax']]

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 58
Masukkan Nilai Provokasi : 63
[[1, 'Sedang'], [0, 'Tinggi']]
Traceback (most recent call last):
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 300, in <module>
    hasil_pengecekan = pengecekan_sugeno(hasilemosi , hasilprovokasi)
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 44, in pengecekan_sugeno
    return (sugenol(cek1 , cek2))
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 74, in sugenol
    if(a[1] == 'Hoax' and b[1] == 'Hoax'):
IndexError: list index out of range

Process finished with exit code 1
```

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 68
Masukkan Nilai Provokasi : 70
[[0.8, 'Tinggi'], [0.2, 'Sedang']]
[[1, 'Tinggi'], [0, 'SangatTinggi']]
[100.0, 'Hoax']

Process finished with exit code 0
```

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 64
Masukkan Nilai Provokasi : 66
[[0.4, 'Tinggi'], [0.6, 'Sedang']]
[[0.6, 'Tinggi'], [0.4, 'Sedang']]
None

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 57
Masukkan Nilai Provokasi : 77
[[1, 'Sedang'], [0, 'Tinggi']]
[[1, 'Tinggi'], [0, 'SangatTinggi']]
[[40, 'Hoax']]

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 77
Masukkan Nilai Provokasi : 55
[[1, 'Tinggi'], [0, 'SangatTinggi']]
[[1, 'Sedang'], [0, 'Tinggi']]
[[20, 'Tidak Hoax']]

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 98
Masukkan Nilai Provokasi : 64
Traceback (most recent call last):
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 300, in <module>
    [[1, 'SangatTinggi'], [0, 'Tinggi']]
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 300, in <module>
    [[0.4, 'Tinggi'], [0.6, 'Sedang']]
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 44, in pengecekan_sugeno
    hasil_pengecekan = pengecekan_sugeno(hasilemosi , hasilprovokasi)
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 44, in pengecekan_sugeno
    return (sugenol(cek1 , cek2))
  File "C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py", line 74, in sugenol
    if(a[1] == 'Hoax' and b[1] == 'Hoax'):
IndexError: list index out of range

Process finished with exit code 1
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 91
Masukkan Nilai Provokasi : 59
[[1, 'SangatTinggi'], [0, 'Tinggi']]
[[1, 'Sedang'], [0, 'Tinggi']]
[[40, 'Hoax']]

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 50
Masukkan Nilai Provokasi : 95
[[1, 'Sedang'], [0, 'Tinggi']]
[[1, 'SangatTinggi'], [0, 'Tinggi']]
[[40, 'Hoax']]

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 95
Masukkan Nilai Provokasi : 55
[[1, 'SangatTinggi'], [0, 'Tinggi']]
[[1, 'Sedang'], [0, 'Tinggi']]
[[40, 'Hoax']]

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

```
Run 1301154106_tupro2
C:\Python27\python.exe C:/Users/raden/PycharmProjects/untitled/1301154106_tupro2.py
Masukkan Banyaknya Bilangan : 1
Masukkan Nilai Emosi : 27
Masukkan Nilai Provokasi : 79
[[0.7, 'Kecil'], [0.3, 'SangatKecil']]
[[1, 'Tinggi'], [0, 'SangatTinggi']]
[0.0, 'Tidak Hoax']

Process finished with exit code 0
```

4: Run 6: TODO Python Console Terminal

Daftar Pustaka

- [SUY07] Suyanto. 2007. Artificial Intelligence: Searching, Reasoning, Planning and Learning. Informatika, Bandung Indonesia. ISBN: 979-1153-05-1.