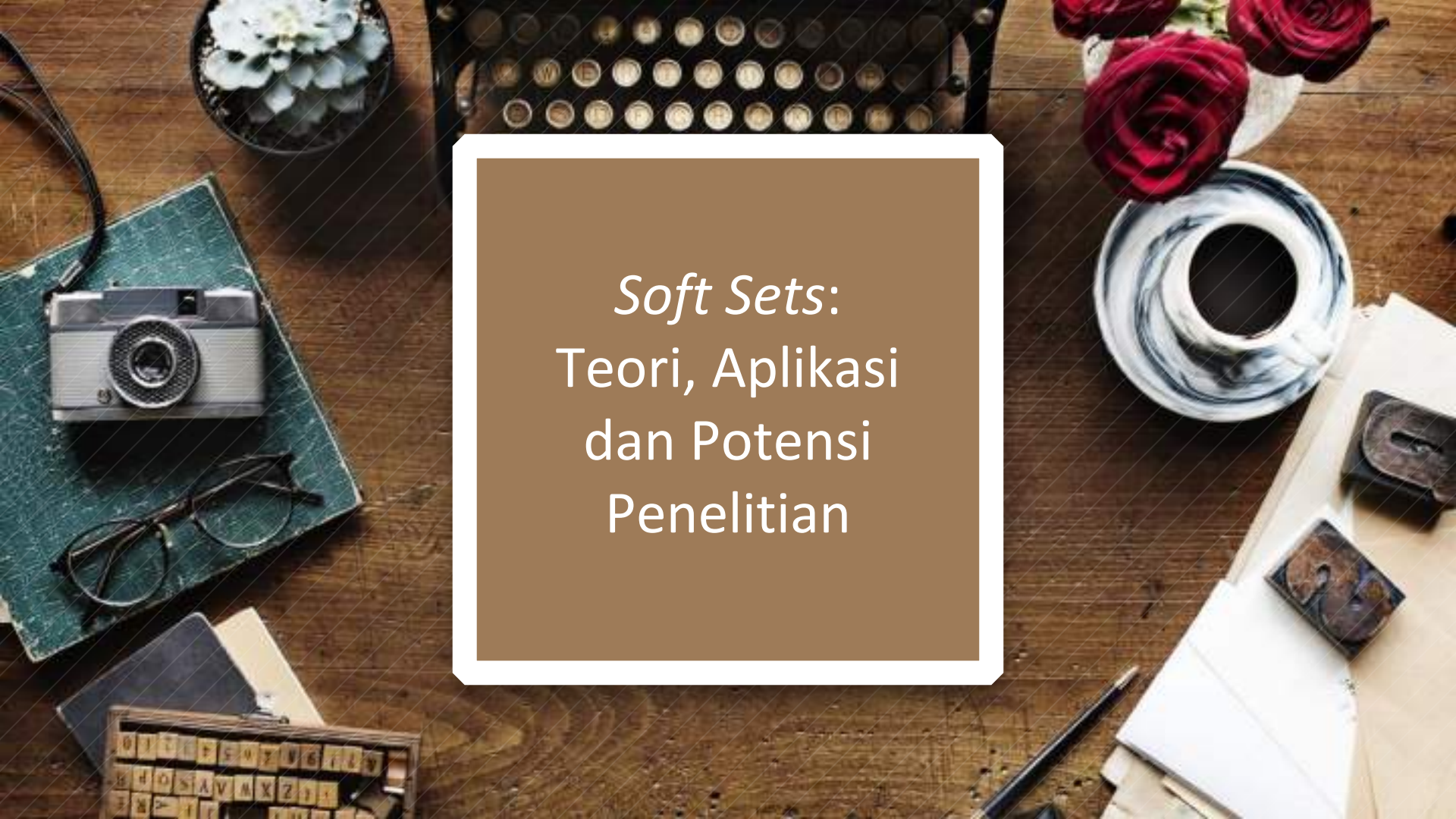
Soft Sets:
Teori, Aplikasi
dan Potensi
Penelitian

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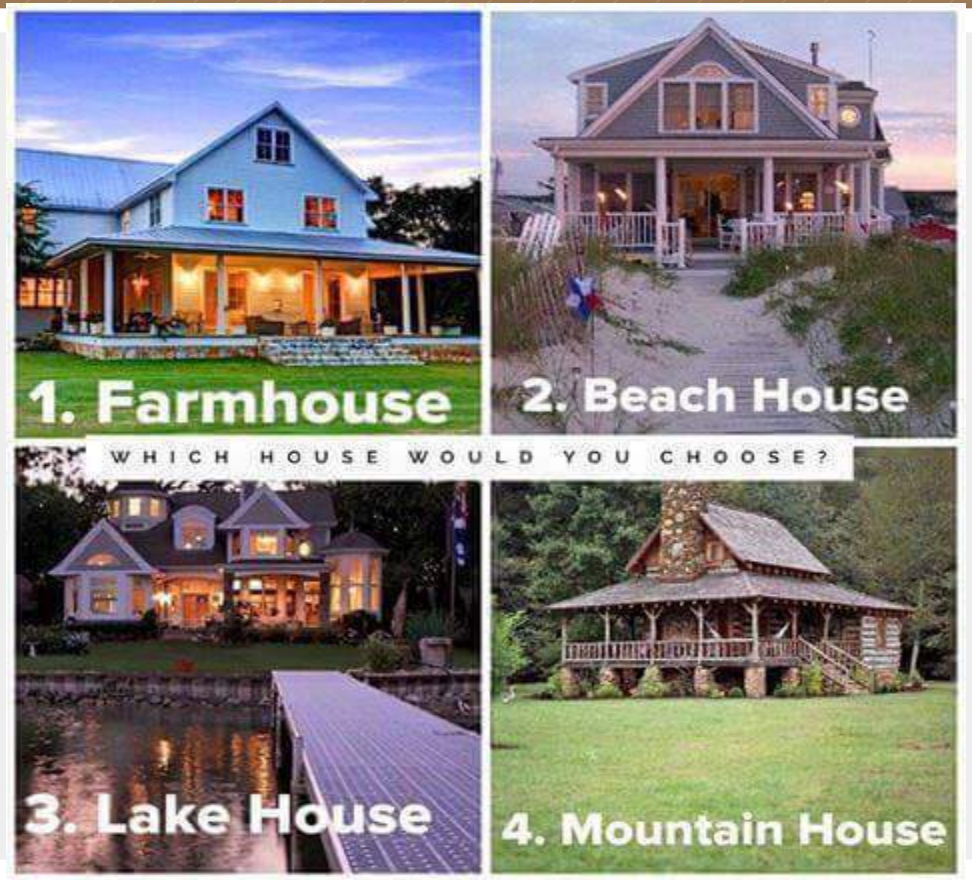
Seminar Rutin Matematika FMIPA Unand
12 September 2018

No matter what people say

Dare to dream!

Pendahuluan


1. Farmhouse
2. Beach House
WHICH HOUSE WOULD YOU CHOOSE?
3. Lake House
4. Mountain House

Contoh

Misalkan Mrs Y ingin membeli satu dari empat rumah dengan mempertimbangkan 'indah', 'murah', 'asri', dan 'modern'.

$U = \{u_i, i = 1, 2, 3, 4\}$ merupakan himpunan rumah, dan
$A = \{e_1 =$indah, $e_2 =$murah, $e_3 =$asri, $e_4 =$modern$\}$ menyatakan himpunan parameter.

Contoh (lanjutan)

(F, A)	e_1	e_2	e_3	e_4
u_1	1	0	1	1
u_2	0	1	0	0
u_3	0	1	1	0
u_4	1	0	1	1

Soft set theory—first results

D Molodtsov - Computers & Mathematics with Applications, 1999 - Elsevier

... The main purpose of this paper is to introduce the basic notions of the theory of **soft sets**, to present the first results of the theory, and to discuss some problems of the future. (~) 1999 Elsevier Science Ltd. All rights reserved ... 2.2. Operations with **Soft Sets** ...

☆ 99 Dirujuk 3032 kali Artikel terkait 7 versi

Teori

Soft Set

Definisi 1

(F, A) dikatakan soft set atas U jika F adalah pemetaan dari himpunan A ke himpunan semua subset dari U, yakni $F : A \to 2^U$.

Molodtsov, 1999

Fuzzy Soft Set (FSS)

Definisi 2

Misalkan $\mathscr{P}(U)$ menyatakan himpunan semua fuzzy sets dari U. (F, A) dikatakan sebagai fuzzy soft set atas U jika F adalah pemetaan dari himpunan A ke himpunan semua fuzzy sets U, yakni $F : A \to \mathscr{P}(U)$.

Roy & Maji, 2007

Probabilistic Soft Set (PSS)

Definisi 3

Misalkan $\mathscr{D}(U)$ menyatakan himpunan semua distribusi probabilitas dari U. (F, A) dikatakan probabilistic soft set atas U jika F adalah pemetaan dari himpunan A ke $\mathscr{D}(U)$, yakni $F : A \to \mathscr{D}(U)$.

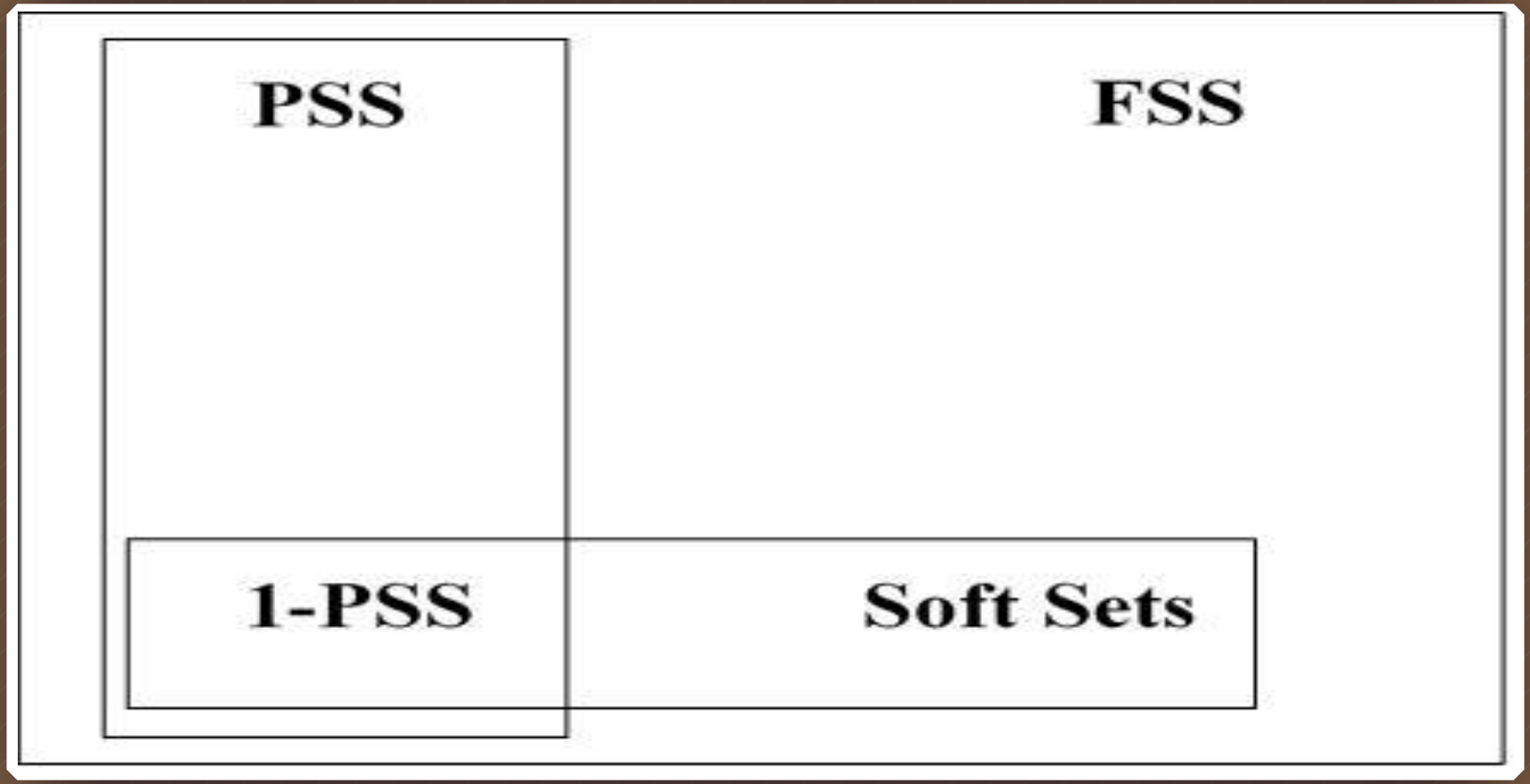
Zhu & Wen, 2010

One-Probabilistic Soft Set (1-PSS)

Pobabilistic soft sets (F, A) *dikatakan one-pobabilistic soft sets atas* U (1-PSS) *jika untuk setiap* $e \in A$ *maka terdapat secara tunggal* $u \in U$ *dengan* $F(e)(u) = 1$. *Himpunan distribusi probabilitas* $(F_{\{i_1,\ldots,i_n\}}, A)$ *dikatakan one-pobabilistic soft sets jika untuk setiap* $j = 1, 2, \ldots, n$, *dan* $k = 1, 2, \ldots, m$ *memenuhi:*

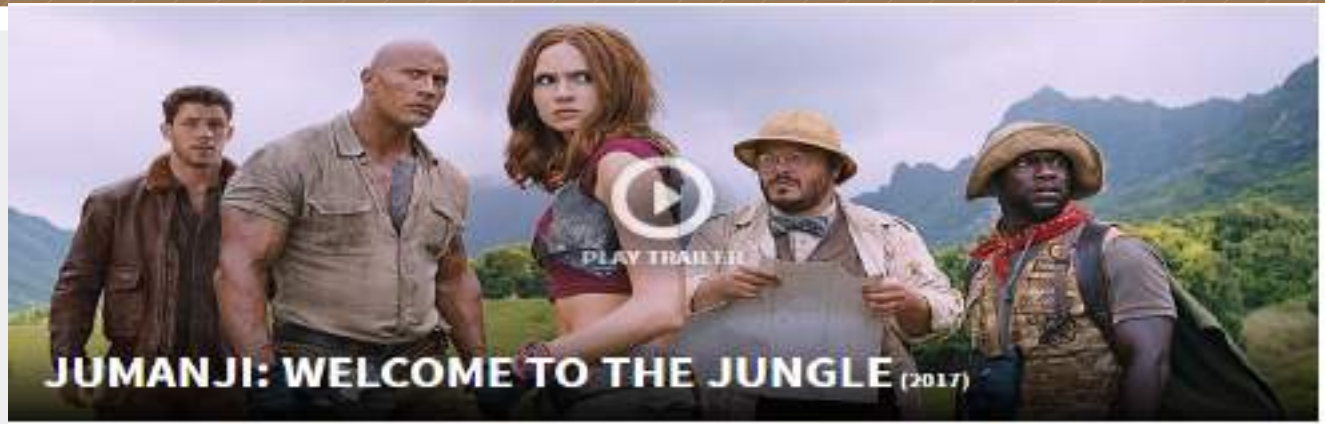
$$F_{\{i_1,\ldots,i_n\}}(e_j)(u_k) = \begin{cases} 1, & \text{jika } k = i, \\ 0, & \text{selainnya.} \end{cases}$$

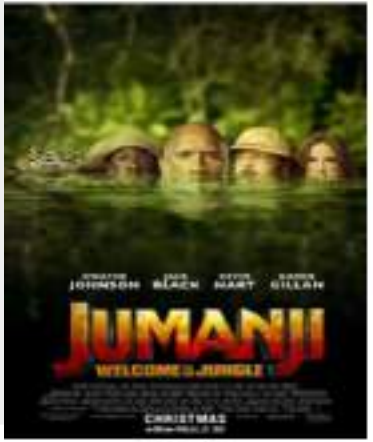
Fatimah dkk., 2017



Fatimah dkk., 2017

Aplikasi





TOMATOMETER

All Critics | Top Critics

77%

Average Rating: 6.1/10
Reviews Counted: 162
Fresh: 124
Rotten: 38

Critics Consensus: *Jumanji: Welcome to the Jungle* uses a charming cast and a humorous twist to offer an undemanding yet solidly entertaining update on its source material.

AUDIENCE SCORE

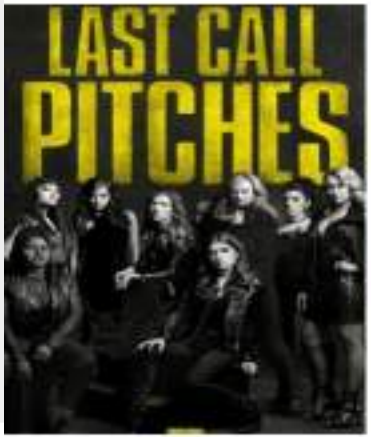
90%
liked it

Average Rating: 4.4/5
User Ratings: 21,869

ADD YOUR RATING

+ WANT TO SEE | NOT INTERESTED

Add a Review (Optional)



TOMATOMETER

All Critics | Top Critics

31%

Average Rating: 4.7/10
Reviews Counted: 104
Fresh: 32
Rotten: 72

Critics Consensus: *Pitch Perfect 3* strains to recapture the magic that helped the original spawn a franchise, but ends up sending this increasingly unnecessary trilogy out on a low note.

AUDIENCE SCORE

54%
liked it

Average Rating: 3.2/5
User Ratings: 14,706

ADD YOUR RATING

+ WANT TO SEE

NOT INTERESTED

Add a Review (Optional)

Aplikasi

LAS M E J O R E S

★★★★★ OBRA MAESTRA · ★★★★ MUY BUENA · ★★★ BUENA · ★★ INTERESANTE · ★ REGULAR · ● MALA

#	Película	EL MUNDO (F. MARINERO, A. BERMEJO, A. LUCHINI, LUIS MARTÍNEZ)	EL PAÍS (JAVIER OCAÑA)	GUÍA DEL OCIO (ROBERTO PIORNO)	DECINE21.COM (JOSÉ MARÍA ARESTÉ)	ABC (J. CORTIJO, O. RODRÍGUEZ MARCHANTE)	CAIMÁN (CARLOS F. HEREDERO)	CINEMANÍA (CARLOS MARAÑÓN)	FOTOGRAMAS (TONI LLLID)	CARTELERA TURIA (MARÍA JOSÉ SÁNCHEZ LERCHUNDI)
1	SING STREET	★★★★★			★★★★					★★★★
2	TARDE PARA LA IRA	★★★★	★★★★	★★★	★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★
3	KUBO Y LAS DOS CUERDAS MÁGICAS	★★★★		★★★★★	★★★	★★★★	★★★★			★★★★
4	ELLE	★★★★★			★★★		★★★★			★★★
5	EL HOMBRE DE LAS MIL CARAS	★★★★	★★★★		★★★	★★★	★★★	★★★★	★★★★	★★★★
6	EL HOGAR DE MISS PEREGRINE	★★★★	★★		★★★★					★★★★
7	CAFÉ SOCIETY	★★★★	★★★★	★★	★★★	★★★	★★★★	★★★★		★★★★
8	NERUDA	★★★★★	★★★	★★★	★★	★★★	★★★★		★★★★	★★★
9	SPARROWS	★★★		★★	★★★★	★★★		★★★★	★★★★	★★★
10	EL PORVENIR	★★		★★★★		★★★★	★★★			
11	FLORENCE FOSTER JENKINS	★★★		★★★★	★★★	★★★				★★★
12	ESCUADRÓN SUICIDA	★★		★★★		★★★		★★★	★★★★	★★★★
13	CAPTAIN FANTASTIC	★				★★★★	★★★			★★★★
14	NO RESPIRES	★★★	★★★	★★★		★★★				★★★
15	MASCOTAS	★★★	★★	★★				★★★		★★★★★
16	CIGÜEÑAS	★★								★★★★
17	JUEGO DE ARMAS	★★★		★★	★★★	★★★				★★★★
18	SUBURRA	★★★		★	★★	★★★		★★★★	★★★	★★★★
19	LA RECONQUISTA	★★★		★★★	★★★		★★★			★★
20	EL TIEMPO DE LOS MONSTRUOS	★★★★		★★			★★			★★★
21	LA VACA	★★						★★★		★★★
22	LOS SIETE MAGNÍFICOS	★★			★★★	★★		★★★		★★★
23	LOS HOMBRES LIBRES DE JONES	★	★★★	★★★		★★★		★★★	★★★	★★
24	LA ESTACIÓN DE LAS MUJERES	★★★		●	★★	★★★	★★★	★★★★	★★	★★
25	BRIDGET JONES' BABY	★				★★★				★★★

CONFECCIONADA MEDIANTE LOS JUICIOS DE LOS CRÍTICOS QUE FIGURAN EN EL ENCABEZAMIENTO. EL ORDEN DE LAS PELÍCULAS SE ESTABLECE SEGÚN LA MEDIA ARITMÉTICA DE LAS ESTRELLAS RECIBIDAS Y DEL NÚMERO DE CRÍTICOS QUE LAS VALORAN

N-Soft Set

(F, A, N) *dikatakan N-soft set pada U jika pemetaan* $F : A \to 2^{U \times \Re}$ *dimana untuk setiap* $a \in A$ *terdapat tepat satu* $(u, r_a) \in U \times \Re$ *sedemikian sehingga* $(u, r_a) \in F(a)$, $u \in U, r_a \in \Re$.

$\Re = \{0, 1, \ldots, N-1\}$: nilai terurut dimana $N \in \{2, 3, \ldots\}$.

Fatimah dkk., 2018

Applications

- Medical diagnosis
- Financial diagnosis
- Quality of red wines
- Filling the postdoctoral position
- Adaptive Mobile Cloud Computing Middleware
- etc

Let's See What They Did

Fuzzy Sets

Fuzzy soft sets (FSS)

Intuitionistic FSS

Hesitant FSS

Interval-valued FSS

Interval-valued Intuitionistic FSS

Interval-valued Hesitant FSS

Interval-valued Intuitionistic Hesitant FSS

Rough Sets

Rough soft sets

Soft rough sets

Soft rough hemirings

Rough soft hemirings

Intuitionistic fuzzy soft rough set

Vague Sets

Vague soft sets (VSS)

Interval-valued VSS

Probabilistic

Probabilistic soft sets

Dual probabilistic soft sets
(Fatimah et al., 2017, 2018)

N-array

N-soft set (Fatimah et al., 2018)

Graded soft set (Fatimah et al., 2017)

Hesitant N-soft set


Now,
Your Turn!

How (1)?

- Kenali diri sendiri : Topik, Kebutuhan
- Target : Buat, Eksekusi
- Percaya diri : Perenungan, Doa

How (2)?

Kumpulkan referensi **2** tahun terakhir.

Cara baca & kuasai cepat:

- Judul : Pattern
- Abstrak : Closer
- Kesimpulan : Direction

How (3)?

Cukup pilih maksimal 3 paper terbaik (menurut kita) untuk dicintai.

- Pendahuluan : Power
- Metode, Pembahasan : I see
- Teori : Get it!

START!

1. Tulis Ide Penelitian
2. Tulis Pembahasan
3. Tulis Kesimpulan
4. dst

“

Contoh

Soft Comput (2018) 22:3829–3842
https://doi.org/10.1007/s00500-017-2838-6

FOUNDATIONS

N-soft sets and their decision making algorithms

Fatia Fatimah[1,2] · Dedi Rosadi[2] · R. B. Fajriya Hakim[3] · José Carlos R. Alcantud[4]

Published online: 22 September 2017

Abstract In this paper, we motivate and introduce the concept of N-soft set as an extended soft set model. Some useful algebraic definitions and properties are given. We cite real examples that prove that N-soft sets are a cogent model for binary and non-binary evaluations in numerous kinds of decision making problems. Finally, we propose decision making procedures for N-soft sets.

Keywords N-soft set · Non-binary evaluation · Decision making · Choice value · Intersection and union

imprecision, or subjectivity. This paper expands the range of applications of one of the theories that can be used to deal with these characteristics, namely soft set theory. It was introduced by Molodtsov (1999), who also showed its applicability to various fields. Soft set does not require parameters specification. Instead, it accommodates all types of parameters as its benchmark. The parameters of a soft set can be numbers, words, sentences, functions, and so on. Thus, the soft set definition associates the pertinent attributes with information or knowledge about the elements in the universe.

Our definition opens up new avenues for research. Within this model, it is feasible to study entropy, correlation and similarity indices between N-soft sets as a tool to help in the decision making processes. Parameter reduction in N-soft sets can also be defined and investigated. This analysis is in continuation of the original approach in Maji et al. (2002) for soft sets. It addresses the problem in real situations like that in Fig. 1. But we can also go beyond our framework. It is possible to develop a theory on N-soft sets under incomplete information. This theory would extend existing literature in incomplete soft sets (Alcantud and Santos-García 2016, 2017; Han et al. 2014; Qin et al. 2011; Zou and Xiao 2008). And it means a useful complement to the theory about incomplete fuzzy soft sets (Liu et al. 2017; Yang et al. 2015; Deng and Wang 2013). Last but not least, hesitancy is basically reduced to lack of information in the soft set environment. Because the parameterized descriptions are binary, we can only introduce hesitancy by being fully indeterminate about the belongingness of the alternatives to the sets of e-approximate elements. Such hesitancy can be rightfully interpreted in terms of incomplete information. However, it is only natural to introduce genuine hesitancy in the context of N-soft sets, because in an environment with multiplicity of the parameterizations one can doubt about which one is correct. We expect to return to these issues in the future.

Expert Systems With Applications 115 (2019) 95–105

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journal homepage: www.elsevier.com/locate/eswa

Group decision-making methods based on hesitant *N*-soft sets

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ABSTRACT

In this article, we introduce a new hybrid model called hesitant *N*-soft sets by a suitable combination of hesitancy with *N*-soft sets, a model that extends *N*-soft sets. Our novel concept is illustrated with real life examples. Moreover, we investigate some useful properties of hesitant *N*-soft sets and construct fundamental operations on them. We describe potential applications of hesitant *N*-soft sets in group decision-making, and finally we present some group decision-making methods as algorithms.

Open Problems

N-Soft Sets

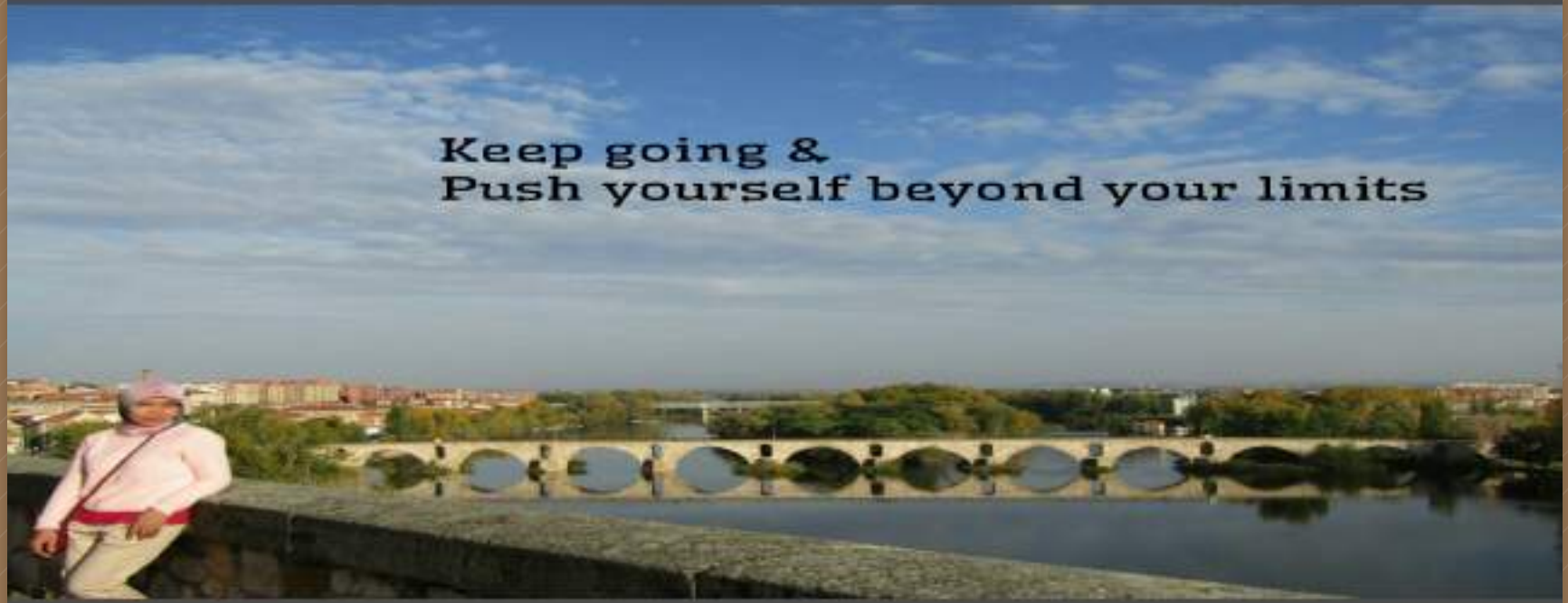
- Parameter reduction
- Incomplete N-Soft Set
- Entropy
- Correlation
- Similarity
- …

Or

HYBRID!!!

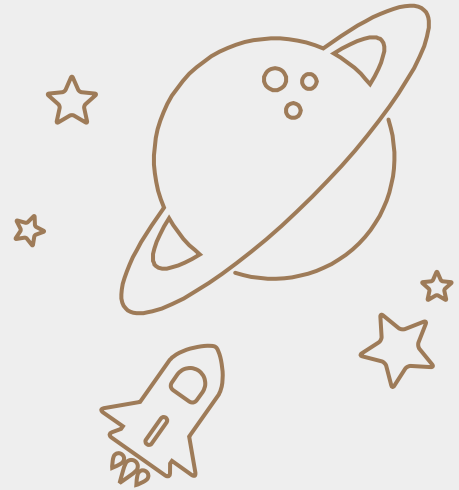
Hesitant N-Soft Sets

- N-soft mF rough graphs,
- N-soft rough mF graphs,
- Hesitant N-soft graphs,
- Hesitant N-soft hypergraphs,
- Hesitant Pythagorean fuzzy graphs
- …



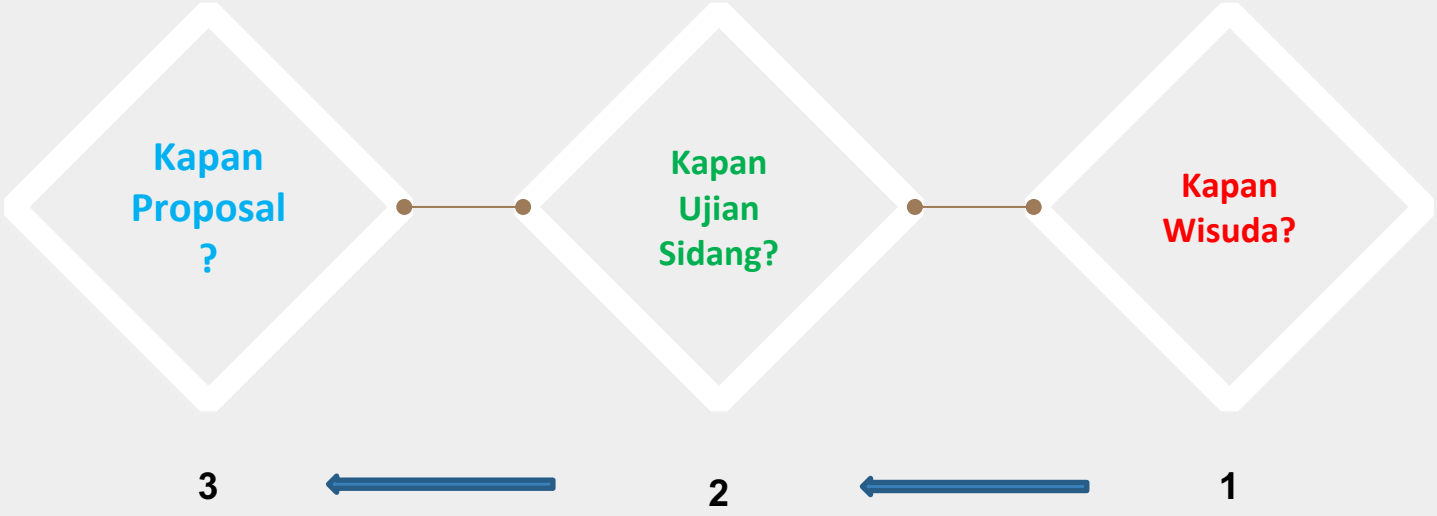
Thanks!

Bonus



Mengejar Impian

Nama, Gelar



Eksekusi!!!

Sebelum Tidur

- Tulis maksimal 2 target untuk besok
- Target yang **HARUS SELESAI**.
- Evaluasi ketercapaiannya.

Jujur

- ✓ Tercapai: Apresiasi diri sendiri
- ✓ Tidak tercapai:

  Malas? Atau Tidak Fokus?

  (Tidak cari-cari alasan)

Contoh. 13 September 2018:

i. 1 abstrak artikel: pahami & tulis ulang dengan bahasa sendiri

ii. Buat peta pikiran ide-ide tulisan