



DISCRETE MATHEMATICS - KS091201

## Development of Simple Expert System for Reading Astrology

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Faculty of Information Technology

INSTITUT TEKNOLOGI SEPULUH NOPEMBER

Surabaya 2009



## PROJECT INFORMATION

<b>Project Title</b>	ASTROLOGY READER
<b>Group Name</b>	MTJUTSU
<b>Blog URL</b>	<a href="http://misstyasjutsu.wordpress.com">http://misstyasjutsu.wordpress.com</a>
<b>Class</b>	C

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## SUBMISSION

Surabaya, December 22th 2009

## ABSTRACT

Astrology in every country in Indonesia develop behavior problems every year that affect emotion and quality of the people. As history has shown repeatedly, astrology can and do periodically cause significant behavior changing in patterns that are difficult to predict in advance. astrology cause better behave changing over the entire state, however, some nonbeliever significant increase each year. Fortunately, astrology has effective genetic resistance to many of the important diseases, however, numerous challenges remain in management of astrology.

This includes the fortune, fate, destiny, and love problems. The occurrence of any specific problems depends on environmental conditions, culture practices, and the believe that is grown.

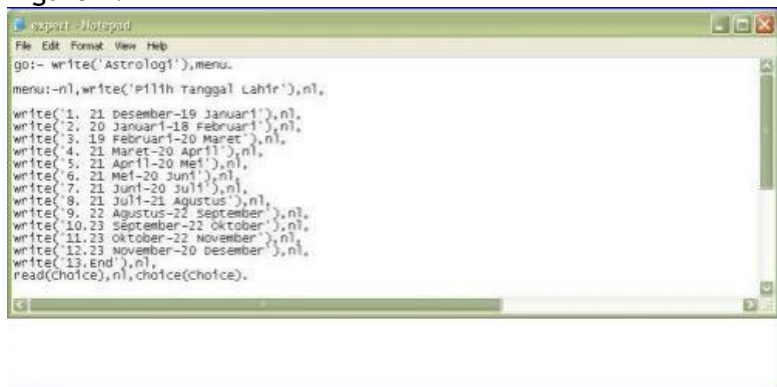
This simple expert system is developed to cope with this kind of astrology problem. This simple expert system help people to determine what kind of behave they has. Thus, can help them to make decision what kind of behave they has to be.

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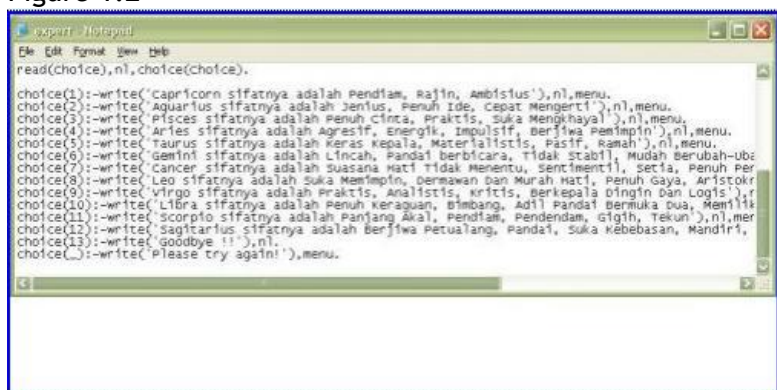
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### 1. Figure 1.1



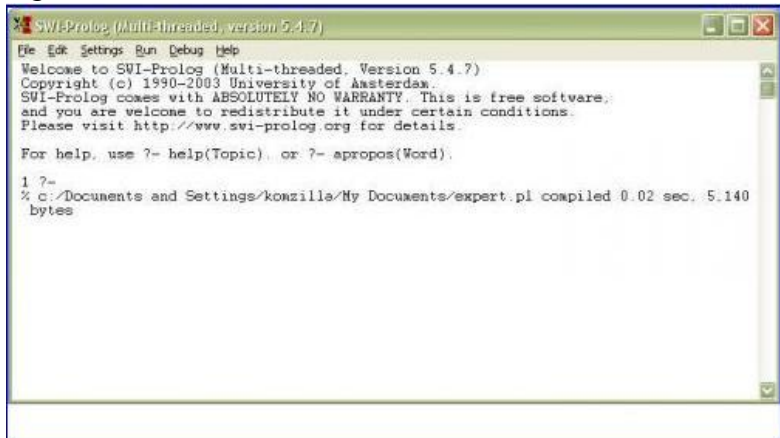
```
expert Notepad
File Edit Format View Help
go:- write('Astrologi'),menu.
menu:-n1,write('Pilih tanggal Lahir'),n1,
write('1. 21 Desember-19 Januari'),n1,
write('2. 20 Januari-18 Februari'),n1,
write('3. 19 Februari-20 Maret'),n1,
write('4. 21 Maret-20 April'),n1,
write('5. 21 April-20 Mei'),n1,
write('6. 21 Mei-20 Juni'),n1,
write('7. 21 Juni-20 Juli'),n1,
write('8. 21 Juli-21 Agustus'),n1,
write('9. 22 Agustus-22 September'),n1,
write('10.23 September-22 Oktober'),n1,
write('11.23 Oktober-22 November'),n1,
write('12.23 November-20 Desember'),n1,
write('13.End'),n1,
read(choice),n1,choice(choice).
```

### 2. Figure 1.2



```
expert Notepad
File Edit Format View Help
read(choice),n1,choice(choice).
choice(1):-write('Capricorn sifatnya adalah Pendiam, Rajin, Ambisius'),n1,menu.
choice(2):-write('Aquarius sifatnya adalah Jenius, Penuh Ide, Cepat Mengerti'),n1,menu.
choice(3):-write('Pisces sifatnya adalah Penuh Cinta, Praktis, Suka Mengkhayal'),n1,menu.
choice(4):-write('Aries sifatnya adalah Agresif, Enerjik, Impulsif, Berjiwa Pemimpin'),n1,menu.
choice(5):-write('Taurus sifatnya adalah Keras Kepala, Materialistis, Pasif, Ramah'),n1,menu.
choice(6):-write('Gemini sifatnya adalah Lincih, Pandai berbicara, Tidak stabil, Mudah berubah-ubah'),n1,menu.
choice(7):-write('Cancer sifatnya adalah Suasana Hati Tidak Menentu, Sentimental, Setia, Penuh Perasaan'),n1,menu.
choice(8):-write('Leo sifatnya adalah Suka Memimpin, Dermawan dan Murah Hati, Penuh Gaya, Aristokrat'),n1,menu.
choice(9):-write('Virgo sifatnya adalah Praktis, Analitis, Kritis, Berkepala Dingin dan Logis'),n1,menu.
choice(10):-write('Libra sifatnya adalah Penuh keraguan, Seimbang, Adil Pandai Bermuka Pua, Memilik'),n1,menu.
choice(11):-write('Scorpio sifatnya adalah Panjang Akal, Pendiam, Pendendam, Gigih, Tekun'),n1,menu.
choice(12):-write('Sagitarus sifatnya adalah Berjiwa Petualang, Pandai, Suka Kebebasan, Mandiri'),n1,menu.
choice(13):-write('goodbye !! '),n1,menu.
choice(_):-write('Please try again!'),menu.
```

### 3. Figure 1.3

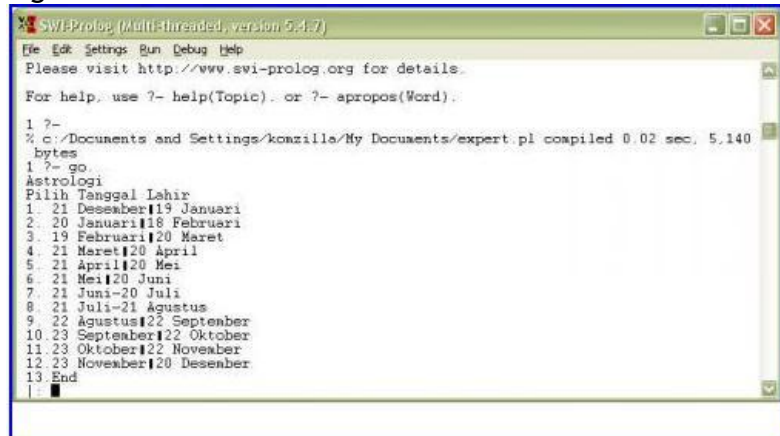


```
SWI-Prolog (Multi-threaded, version 5.4.7)
File Edit Settings Run Debug Help
Welcome to SWI-Prolog (Multi-threaded, Version 5.4.7)
Copyright (c) 1990-2003 University of Amsterdam.
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software,
and you are welcome to redistribute it under certain conditions.
Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

1 ?-
% c:/Documents and Settings/konzilla/My Documents/expert.pl compiled 0.02 sec, 5.140
bytes
```


### 4. Figure 1.4



```
SWI-Prolog (Multi-threaded, version 5.4.7)
File Edit Settings Run Debug Help
Please visit http://www.swi-prolog.org for details.
For help, use ?- help(Topic). or ?- apropos(Word).

1 ?-
% c:/Documents and Settings/konzilla/My Documents/expert.pl compiled 0.02 sec, 5.140
bytes
1 ?- go.
Astrologi
Pilih Tanggal Lahir
1. 21 Desember|19 Januari
2. 20 Januari|18 Februari
3. 19 Februari|20 Maret
4. 21 Maret|20 April
5. 21 April|20 Mei
6. 21 Mei|20 Juni
7. 21 Juni-20 Juli
8. 21 Juli-21 Agustus
9. 22 Agustus|22 September
10. 23 September|22 Oktober
11. 23 Oktober|22 November
12. 23 November|20 Desember
13. End
|: █
```

## 5. Figure 1.5

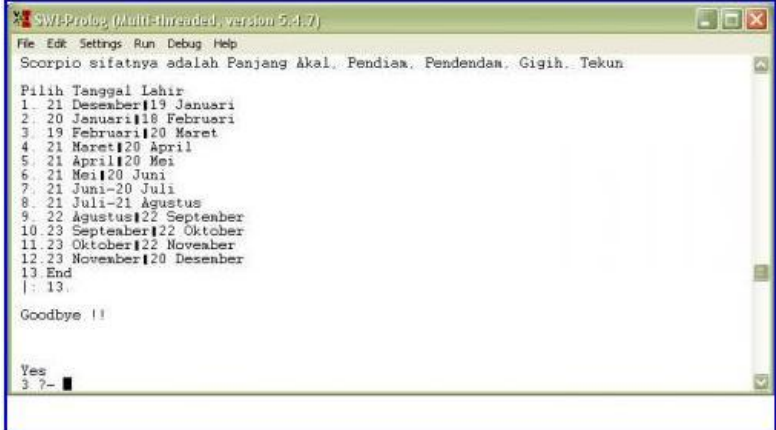


```
SWI-Prolog (Multi-threaded, version 5.4.7)
File Edit Settings Run Debug Help
9. 22 Agustus|22 September
10. 23 September|22 Oktober
11. 23 Oktober|22 November
12. 23 November|20 Desember
13. End
|: 11.

Scorpio sifatnya adalah Panjang Akal, Pendiaa, Pendendaa, Gigih, Tekun

Pilih Tanggal Lahir
1. 21 Desember|19 Januari
2. 20 Januari|18 Februari
3. 19 Februari|20 Maret
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6. 21 Mei|20 Juni
7. 21 Juni-20 Juli
8. 21 Juli-21 Agustus
9. 22 Agustus|22 September
10. 23 September|22 Oktober
11. 23 Oktober|22 November
12. 23 November|20 Desember
13. End
|: █
```

## 6. Figure 1.6



```
SWI-Prolog (Multi-threaded, version 5.4.7)
File Edit Settings Run Debug Help
Scorpio sifatnya adalah Panjang Akal, Pendiaa, Pendendaa, Gigih, Tekun

Pilih Tanggal Lahir
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8. 21 Juli-21 Agustus
9. 22 Agustus|22 September
10. 23 September|22 Oktober
11. 23 Oktober|22 November
12. 23 November|20 Desember
13. End
|: 13.

Goodbye !!

Yes
3 ?- █
```



## ACKNOWLEDGEMENT

First let we say a deep thanks to our beloved God who has been giving us his mercy and blessing so we can finally finish this final project. After trough many difficulties we can humbly present you our final project. And we not forget to say thank to our great mentor, our great teacher who never tired giving us his wisdom and knowledge to make us understand and make this hopefully useful project.

This project made by mean to help us all more understand the mean behind this universe not just the zodiac thing.but behind that's all the are big secret of astrology held. What the meaning behind it all. How useful they are. We hope with our project not just help you build confidence but also seek the science behind it all.

We say many thanks to any side who that help make this project real. We waiting for your criticism and suggestion to make this project more perfect.

Surabaya, December 2009

Regard, MTJ Team



# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Astrology in every country in Indonesia develop behavior problems every year that affect emotion and quality of the people. As history has shown repeatedly, astrology can and do periodically cause significant behavior changing in patterns that are difficult to predict in advance. astrology cause better behave changing over the entire state, however, some nonbeliever significant increase each year. Fortunately, astrology has effective genetic resistance to many of the important diseases, however, numerous challenges remain in management of astrology.

This includes the fortune, fate, destiny, and love problems. The occurrence of any specific problems depends on environmental conditions, culture practices, and the believe that is grown.

### 1.2 Problem Statement

People lack of knowledge of everybody natural. They all try to guessing everybody natural behave.

### 1.3 Scope

This simple expert system is developed to cope with this kind of astrology problem. This simple expert system help people to determine what kind of behave they has. Thus, can help them to make decision what kind of behave they has to be.

### 1.4 Ojectives

Help people more know their own natural behavior

### 1.5 Benefits

This expert system effectively can help people to determine kind of zodiac.

## CHAPTER 2 LITERATURE REVIEW

An expert system is a computer application that solves complicated problems that would otherwise require extensive human expertise. To do so, it simulates the human reasoning process by applying specific knowledge and interfaces. Expert systems also use human knowledge to solve problems that normally would require human intelligence. These expert systems represent the expertise knowledge as data or rules within the computer. These rules and data can be called upon when needed to solve problems. Books and manual guides have a tremendous amount of knowledge but a human has to read and interpret the knowledge for it to be used.

Expert system, that is program which can assist to finish the problem as a expert in the field of certain.

Following is a simple example from applying expert system in the field of astrology (star forecast). With the data input of date of birth, we can know the nature of somebody.

In astrology there are 12 compatible star, which divided by pursuant to date of birth:

1. Capricorn ( 21 December - 19 January).
2. Aquarius ( 20 January - 18 Februari )
3. Pisces ( 19 Februari - 20 March )
4. Aries ( 21 March - 20 April )
5. Taurus ( 21 April - 20 May )
6. Gemini ( 21 May - 20 June )
7. Cancer ( 21 June- 20 July )
8. Leo ( 21 juli-21 August )
9. Virgo ( 22 August - 22 September)
10. Libra ( 23 September - 22 October)
11. Scorpio ( 23 October - 22 November)
12. Sagitarius ( 23 November - 20 December)

After known the date of birth, hence will be known by the zodiac. Pursuant to the zodiac will be known the nature of which possibility owned by persons involved:

1. People of Capricorn own the characteristic : Demure, Ambitious and Diligent, Materialist, High Prestige, Like to Govern, Like to use as a tool Others.
2. Aquarius, Objective, Jenius, Full Idea, Quick Parts.
3. People of Pisces Own The Big Side humanity, Full Of Love, Practical, Like the Illusion.
4. People of Aries have the characteristic : Aggresive, Energik, Impulsif have, Soul to Lead, Egoist, Quickly Emotion.
5. Taurus measure up to Headstrong, Materialistis, Passive, Friendly & Patient, Devoted and Practical, Owing Tolerance Soul.
6. Distinguish the People of Gemini : Nimble, Clever converse, Unstable, Easy To Fluctuate, Easy To Nervous About, Very Sensitive.
7. Distinguish the People of Cancer : Mood Uncertain, Sentimental, Devoted, All One's Ear, Difficult Forgive, Owing Strong Recall.
8. Distinguish the People of Leo Like To Lead The, Benefactor And Liberal, Stylishly, Aristokratik, Bumptious, High Self Confidence.
9. Virgo, Analistis, Critical, Logical And Presence Of Mind, Diligent, Modestly.
10. People of Libra is Full Of Doubt, Hesitate, Two-Faced Clever Fair, Owing Strong Instinct, Fascinating.

11. Long Libra of Mind, Demure, Resentful, Persistent, Assiduous.
12. People of Sagitarius of have Soul to Adventurer, Clever, Like The Freedom, Self-Supporting, Clever have Diplomacy, Broad-Minded.

By conducting input the date of birth from somebody we learn the analysis to personality owned by somebody.

## CHAPTER 3

### EXPERT SYSTEM DESIGN

Our Expert system for identifying zodiac typically have a number of several components. The *knowledge base* is the component that contains the knowledge obtained from the domain expert. Normally the way of representing knowledge is using rules. The *inference engine* is the component that manipulates the knowledge found in the knowledge base as needed to arrive at a result or solution. The *user interface* is the component that allows the user to query the system and receive the results of those queries. Many ES's also have an explanation facility which explains why a question was asked or how a result or solution was obtained.

The framework of this expert system is depicted by Figure bellow. It consist of acquitition module, knowledge base, Inference engine, and explanatory engine. It is also has database, representation of knowledge, method of palusible reasoning, and the last one is the human window. Human window means user interface.

## CHAPTER 4 DEVELOPMENT

This expert system is developed by using prolog. **Prolog** is a general purpose [logic programming](#) language associated with [artificial intelligence](#) and [computational linguistics](#).

Prolog has its roots in [formal logic](#), and unlike many other programming languages, Prolog is [declarative](#): The program logic is expressed in terms of relations, represented as facts and rules. Execution is triggered by running *queries* over these relations.

### Fact and Rules

```
animal(sparrow) .
has_feathers(sparrow) .

bird(X) :-
    animal(X),
    has_feathers(X) .
bird(X) :-
    animal(X),
    has_feathers(X) .

grandparent(X, Y) :-
    parent(X, Z),
    parent(Z, Y) .
```



## CHAPTER 5

### EXPERT SYSTEM TEST CASE

1. We build input in notepad. The input will be database file that contain date data explanation. The program that we build use menu structure that will looping continues for do next input. The input is statement term so must followed by full stop. (see figure 1.1)
2. Then we added option menu. (see figure 1.1, last line)
3. We build option menu number 1-13, so the output will appropriate with the input. (see figure 1.2)
4. Then we save as *expert.pl*.
5. Now we open it in prolog. We open prolog and we consult file *expert.pl*. (see figure 1.3)
6. Then type *go*. Then push *enter*, if the statement that we build is true then will emerge the data about birth date choices. (see figure 1.4)
7. Then will appear birth date choices. If you born between 21<sup>st</sup> December until 19<sup>th</sup> January, so fill in number 1. Same case with other dates.
8. As example, date 15<sup>th</sup> November. Date 15<sup>th</sup> November located between 23<sup>rd</sup> October until 22<sup>nd</sup> November, so we fill in with number 11. The result will appear “Scorpio sifatnya adalah Panjang Akal, Pendiam, Pendendam, Gigih, Tekun”. (see figure 1.5)
9. Beside, will appear option menu again to do the next input with the same choice of number (1-13). (see figure 1.5)
10. To stop from program choice number 13. (see figure 1.6)
11. Finish.

## CHAPTER 6 CONCLUSION

This expert system effectively can help people to determine kind of zodiac.

## BIBLIOGRAPHY

### A web page:

- [http://en.wikipedia.org/wiki/Logic\\_programming](http://en.wikipedia.org/wiki/Logic_programming)
- [http://en.wikipedia.org/wiki/Artificial\\_intelligence](http://en.wikipedia.org/wiki/Artificial_intelligence)
- [http://en.wikipedia.org/wiki/Computational\\_linguistics](http://en.wikipedia.org/wiki/Computational_linguistics)
- [http://en.wikipedia.org/wiki/Formal\\_logic](http://en.wikipedia.org/wiki/Formal_logic)
- [http://en.wikipedia.org/wiki/Declarative\\_programming](http://en.wikipedia.org/wiki/Declarative_programming)
- <http://misstyasjutsu.wordpress.com>

## AUTHOR BIOGRAPHY

### 1. Akhmad Habibi Malik Arsy

Perkenalkan Akhmad Habibi Malik Arsy. Dilahirkan pada 7 Juni 1991 di Mojokerto. Adalah anak terakhir dari 3 bersaudara. Masa pendidikan yang pertama diawali dari TK. Kemudian melanjutkan ke SD Negeri Trowulan I. Kemudian melanjutkan ke SMP Negeri I Sooko di Mojokerto. Lalu melanjutkan lagi di SMA Negeri I Sooko Mojokerto. Setelah 3 tahun bersekolah di SMA Negeri I Sooko, kemudian diterima di ITS Surabaya melalui jalur SNMPTN. Jurusan yang dipilih adalah Sistem Informasi.

### 2. Ayrton Mikhael Sumangkut

Ayrton dilahirkan pada tanggal 26 Nopember 1991 di Jakarta, yang merupakan anak pertama dari tiga bersaudara. Masa pendidikan yaitu TK dan SD STRADA Sugiyo Pranoto Sj, lalu SMP STRADA Bakti Mulia, dan SMAN 1 Teluknaga. Sekarang sedang menjalani kuliah S1 di Institut Teknologi Sepuluh Nopember jurusan Sistem Informasi fakultas Teknologi Informasi di Surabaya.

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### 4. Mohamad Komara Novianto

Lahir di Banjarnegara pada tanggal 15 November 1982. Masa pendidikan, SD Negeri Purbalingga Lor 2 tahun 1994, SMP Negeri 1 Purbalingga tahun 1997, SMU Negeri 1 Purbalingga tahun 2000, dan D3 STAN jurusan anggaran tahun 2003. Sekarang sedang menjalani pendidikan S1 di ITS.