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Subject	Artificial Intelligence and Pattern Recognition
Assignment	2



Topic : PROLOG

Based on “**Quick–’n’–Dirty Prolog Tutorial**” in Introduction to Discrete Structures Fall 2004 (McCann) from University of Arizona.

Tools :

- GNU prolog
- Microsoft Visual Studio Code

1. Install and Run GNU prolog

```

GNU Prolog console
File Edit Terminal Prolog Help
GNU Prolog 1.5.0 (64 bits)
Compiled Jul 8 2021, 12:33:56 with c1
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| ?-

```

2. Create Fact

```

family.pl
family.pl
1  parent(aisah,kaira).
2  parent(suwondo,kaira).
3  parent(suripto,aisah).
4  parent(suparmi,aisah).
5  parent(kasno,suwondo).
6  parent(katiah,suwondo).
7
8  grandparent(X,Z) :- parent(X,Y) , parent(Y,Z).
9  ancestor(X,Y) :- parent(X,Y).
10 ancestor(X,Y) :- parent(Z,Y) , ancestor(X,Z).

```

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3. Create Rule

```
family.pl x
family.pl
1 parent(aisah,kaira).
2 parent(suwondo,kaira).
3 parent(suripto,aisah).
4 parent(suparmi,aisah).
5 parent(kasno,suwondo).
6 parent(katiah,suwondo).
7
8 grandparent(X,Z) :- parent(X,Y) , parent(Y,Z).
9 ancestor(X,Y) :- parent(X,Y).
10 ancestor(X,Y) :- parent(Z,Y) , ancestor(X,Z).
```

4. Make a Query

4.1. Change directory

```
GNU Prolog console
File Edit Terminal Prolog Help
GNU Prolog 1.5.0 (64 bits)
Compiled Jul 8 2021, 12:33:56 with cl
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| ?- change_directory('C:/Users/Kaira/gprolog').

yes
| ?- [family].
compiling C:/Users/Kaira/gprolog/family.pl for byte code...
C:/Users/Kaira/gprolog/family.pl compiled, 9 lines read - 1443 bytes written, 4 ms

yes
| ?- |
```

4.2. Querying

```
GNU Prolog console
File Edit Terminal Prolog Help
GNU Prolog 1.5.0 (64 bits)
Compiled Jul 8 2021, 12:33:56 with cl
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| ?- change_directory('C:/Users/Kaira/gprolog').

yes
| ?- [family].
compiling C:/Users/Kaira/gprolog/family.pl for byte code...
C:/Users/Kaira/gprolog/family.pl compiled, 9 lines read - 1443 bytes written, 4 ms

yes
| ?- parent(aisah,kaira).

yes
| ?- parent(suripto,aisah).

yes
| ?- grandparent(aisah,kaira).

no
| ?- grandparent(suripto,kaira).

yes
| ?-
```

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```
GNU Prolog console
File Edit Terminal Prolog Help
| ?- parent(aisah,X).
X = kaira
yes
| ?- parent(x,kaira).
X = aisah ? ;
X = suwondo ?
yes
| ?- grandparent(x,kaira).
X = suripto ? ;
X = suparmi ? ;
X = kasno ? ;
X = katiah
yes
| ?-
```