

TUGAS MODUL- 07

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Kelas : IF - C
Mata Kuliah : *Artificial Intelligence*

Prolog

%Waktu legal sesi

waktu(pagi).

waktu(sore).

%Ruang yang ada

ruang(a).

ruang(b).

%Dosen mata kuliah

dosmat(bio,cathy).

dosmat(bio,ben).

dosmat(ai,eddy).

dosmat(ai,ann).

dosmat(ai,cathy).

dosmat(db,adam).

dosmat(db,dennis).

dosmat(os,eddy).

dosmat(os,dennis).

%Sesi Waktu,Matkul,Ruang,Dosen1,Dosen2

sesi(W,M,R,D1,D2):-

waktu(W),

ruang(R),

dosmat(M,D1),

dosmat(M,D2),

D1\=D2.

%True jika dua sesi pada waktu yang berbeda

%True = tidak konflik

cek_konflik(W1,_,_,W2,_,_):-

W1\=W2.

%True jika tidak ada dosen yang sama pada waktu

%yang sama, True = tidak konflik

cek_konflik(W,R1,D1,D2,W,R2,D3,D4):-

D1\=D3,

D2\=D3,

D1\=D4,

D2\=D4,

D1\=D2,

D3\=D4,

R1\=R2.

%jadwal(Waktu1,Ruang1,Dosen1,Dosen2,..Waktu3,Ruang3,Dosen5,Dosen6)

jadwal(W1,R1,D1,D2,W2,R2,D3,D4,W3,R3,D5,D6):-

sesi(W1,ai,R1,D1,D2),

sesi(W2,bio,R2,D3,D4),

sesi(W3,db,R3,D5,D6),

cek_konflik(W1,R1,D1,D2,W2,R2,D3,D4), %1-2 3C2=3

cek_konflik(W1,R1,D1,D2,W3,R3,D5,D6), %1-3

cek_konflik(W2,R2,D3,D4,W3,R3,D5,D6), %2-3

write('ai :W1,R1,D1,D2'),nl,

write('bio:W2,R2,D3,D4'),nl,

write('db :W3,R3,D5,D6'),nl.

%jadwal(Waktu1,Ruang1,Dosen1,Dosen2,..Waktu4,Ruang4,Dosen7,Dosen8)

jadwalb(W1,R1,D1,D2,W2,R2,D3,D4,W3,R3,D5,D6,W4,R4,D7,D8):-

sesi(W1,ai,R1,D1,D2),

sesi(W2,bio,R2,D3,D4),

sesi(W3,db,R3,D5,D6),

sesi(W4,os,R4,D7,D8),

cek_konflik(W1,R1,D1,D2,W2,R2,D3,D4), %1-2 4C2=6

cek_konflik(W1,R1,D1,D2,W3,R3,D5,D6), %1-3

cek_konflik(W1,R1,D1,D2,W4,R4,D7,D8), %1-4

cek_konflik(W2,R2,D3,D4,W3,R3,D5,D6), %2-3

cek_konflik(W2,R2,D3,D4,W4,R4,D7,D8), %2-4

cek_konflik(W3,R3,D5,D6,W4,R4,D7,D8), %3-4

write('ai :W1,R1,D1,D2'),nl,

write('bio:W2,R2,D3,D4'),nl,

write('db :W3,R3,D5,D6'),nl,

write('os :W4,R4,D7,D8'),nl.

Prolog

?- jadwalb(W1,R1,D1,D2,W2,R2,D3,D4,W3,R3,D5,D6,W4,R4,D7,D8).

ai :W1,R1,D1,D2

bio:W2,R2,D3,D4

db :W3,R3,D5,D6

os :W4,R4,D7,D8

W1 = W3, W3 = pagi,

R1 = R2, R2 = a,

D1 = D7, D7 = eddy,

D2 = ann,

W2 = W4, W4 = sore,

D3 = cathy,

D4 = ben,

R3 = R4, R4 = b,

D5 = adam,

D6 = D8, D8 = dennis ;

ai :W1,R1,D1,D2

bio:W2,R2,D3,D4

db :W3,R3,D5,D6

os :W4,R4,D7,D8

W1 = W3, W3 = pagi,

R1 = R2, R2 = a,

D1 = D8, D8 = eddy,

D2 = ann,

W2 = W4, W4 = sore,

D3 = cathy,

D4 = ben,

R3 = R4, R4 = b,

D5 = adam,

D6 = D7, D7 = dennis ;

ai :W1,R1,D1,D2

bio:W2,R2,D3,D4

db :W3,R3,D5,D6

os :W4,R4,D7,D8

W1 = W3, W3 = pagi,

R1 = R2, R2 = a,

D1 = D7, D7 = eddy,

D2 = ann,

W2 = W4, W4 = sore,

D3 = cathy,

D4 = ben,

R3 = R4, R4 = b,

D5 = D8, D8 = dennis,

D6 = adam .

Interpretasi Solusi 1:

AI Pagi, Ruang-A, Eddy, Ann

Bio Sore, Ruang-A, Cathy, Ben

DB Pagi, Ruang-B, Adam, Dennis

OS Sore, Ruang-B, Eddy, Dennis

Interpretasi Solusi 2:

AI Pagi, Ruang-A, Eddy, Ann

Bio Sore, Ruang-A, Cathy, Ben

DB Pagi, Ruang-B, Adam, Dennis

OS Sore, Ruang-B, Dennis, Eddy

Interpretasi Solusi 3:

AI Pagi, Ruang-A, Eddy, Ann

Bio Sore, Ruang-A, Cathy, Ben

DB Pagi, Ruang-B, Dennis, Adam

OS Sore, Ruang-B, Eddy, Dennis