

LOGIC PROGRAMMING ASSIGNMENT

Group 16

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NO1

1a)

?-

| student(X).

X = viola ;

X = sam ;

X = resty ;

X = brenda ;

X = namale ;

X = junior ;

X = charles ;

X = stom ;

X = samson ;

X = roland ;

X = bukenya ;

X = kizza ;

X = gloria ;

X = musasi ;

X = sadiki ;

X = nabukera ;

X = aida ;

X = gladys ;

X = sinan ;

X = jerome.

1b)

?- ?- lecturer(Y).

Y = byansi ;

Y = kizito ;

Y = bk ;

Y = paddy ;

Y = rose ;

Y = nakibuule ;

Y = paddy ;

Y = bit-wire ;

Y = john ;

Y = ntanda ;

Y = moses ;

Y = john ;

Y = michel ;

Y = babra ;

Y = nansamba ;

Y = mary ;

Y = sozi ;

Y = phionah ;

Y = irene ;

Y = richard.

1c)

?- teaches(A,B).

A = bk,

B = ist1200 ;

A = paddy,

B = bse1204 ;

A = kizito,

B = csc1300 ;

A = richard,

B = csc1209 ;

A = irene,

B = mth3105 ;

A = phionah,

B = csc2200 ;

A = sozi,

B = csc1100 ;

A = mary,

B = ist1204 ;

A = rose,

B = ist1203 ;

A = nansamba,

B = bit2207 ;

A = babra,

B = bse2206 ;

A = kizito,

B = bse2105 ;

A = john,

B = bse2106 ;

A = moses,

B = csc2210 ;

A = ntanda,

B = csc2209 ;

A = paddy,

B = csc2100 ;

A = nakibuule,

B = mth1203 ;

A = byansi,

B = bis1104 ;

A = bit-wire,

B = csc1108 ;

A = michel,

B = csc3105.

1d)

?- takes(X,Y).

X = namale,

Y = csc2200 ;

X = resty,

Y = se1204 ;

X = sam,

Y = csc1300 ;

X = brenda,

Y = ist1200 ;

X = viola,

Y = se1204 ;

X = stom,

Y = csc1104 ;

X = charles,

Y = csc2200 ;

X = junior,

Y = csc1100 ;

X = roland,

Y = ist1204 ;

X = bukenya,

Y = ist1203 ;

X = kizza,

Y = bit2207 ;

X = gloria,

Y = bse2206 ;

X = sadiki,

Y = bse2106 ;

X = nabukera,

Y = csc2210 ;

X = aida,

Y = csc2209 ;

X = gladys,

Y = csc2100 ;

X = samson,

Y = mth1203 ;

X = jerome,

Y = csc1108 ;

X = sinan,

Y = csc3105 ;

X = musasi,

Y = csc2114.

1e)

?- course(S,G,K).

S = csc1209,

G = logic_programming,

K = 3 ;

S = csc1204,

G = operating_systems,

K = 4 ;

S = csc1300,

G = java,

K = 4 ;

S = ist1200,

G = systems_programming,

K = 4 ;

S = bse1204,

G = research_methodology,

K = 3 ;

S = mth1203,

G = data_structures,

K = 4 ;

S = bis1104,

G = dim,

K = 4 ;

S = mth3105,

G = discrete_mathematics,

K = 1 ;

S = csc2210,

G = structured_programming,

K = 2 ;

S = csc2106,

G = practical_skills,

K = 5 ;

S = csc3105,

G = artificial_intelligence,

K = 4 ;

S = bis1104,

G = computer_literacy,

K = 2 ;

S = bse2106,

G = computer_architecture,

K = 3 ;

S = bse2105,

G = individual_project,

K = 1 ;

S = bse2207,

G = numerical_analysis,

K = 2 ;

S = csc1107,

G = calculus,

K = 5 ;

S = ist1203,

G = computer_networks,

K = 3 ;

S = ist1204,

G = comm_skills,

K = 4 ;

S = csc1100,
G = saad,
K = 2 ;
S = csc2200,
G = automata,
K = 3.

1f)

?- student_score(H,J,Y).
H = viola,
J = logic_programming,
Y = 80 ;
H = resty,
J = research_methodology,
Y = 75 ;
H = brenda,
J = operating_systems,
Y = 70 ;
H = musasi,
J = java,
Y = 55 ;
H = roland,
J = comm_skills,
Y = 80 ;
H = samson,
J = numerical_analysis,
Y = 57 ;
H = gloria,
J = dim,
Y = 60 ;

H = stom,
J = saad,
Y = 70 ;
H = gladys,
J = automata,
Y = 60 ;
H = aida,
J = calculus,
Y = 80 ;
H = namale,
J = data_structures,
Y = 100 ;
H = charles,
J = computer_architecture,
Y = 20 ;
H = junior,
J = individual_project,
Y = 40 ;
H = jerome,
J = discrete_mathematics,
Y = 70 ;
H = sinan,
J = structured_programming,
Y = 65 ;
H = kizza,
J = computer_literacy,
Y = 90 ;
H = sadiki,
J = artificial_intelligence,
Y = 52 ;
H = bukenya,

J = computer_networks,
Y = 75 ;
H = sam,
J = systems_programming,
Y = 30 ;
H = nabukera,
J = practical_skills,
Y = 30.

1g).

?- course_belongs_to_department(X,Z).

X = csc2200,
Z = cs ;
X = ist1200,
Z = cs ;
X = csc1300,
Z = cs ;
X = bse1204,
Z = cs ;
X = csc1209,
Z = cs ;
X = mth1203,
Z = it ;
X = csc1204,
Z = cs ;
X = csc1100,
Z = cs ;
X = csc1107,
Z = cs ;
X = csc2210,

Z = cs ;
X = mth3105,
Z = it ;
X = csc1206,
Z = cs ;
X = csc3105,
Z = cs ;
X = bse2106,
Z = n ;
X = bse2105,
Z = n ;
X = ist1203,
Z = cs ;
X = bse2207,
Z = n ;
X = ist1204,
Z = (is) ;
X = bit2207,
Z = it ;
X = bis1104,
Z = (is).

N02

2a).

?- student_belongs(X,Y).

X = sam,
Y = cs ;
X = brenda,
Y = cs ;
X = namale,

Y = cs ;
X = junior,
Y = cs ;
X = charles,
Y = cs ;
X = samson,
Y = it ;
X = roland,
Y = (is) ;
X = bukenya,
Y = cs ;
X = kizza,
Y = it ;
X = sadiki,
Y = n ;
X = nabukera,
Y = cs ;
X = sinan,
Y = cs ;
false.

2b).

?- member_of_department(X,Y).

X = byansi,
Y = (is) ;
X = kizito,
Y = cs ;
X = kizito,
Y = n ;
X = bk,

Y = cs ;

X = paddy,

Y = cs ;

X = rose,

Y = cs ;

X = nakibuule,

Y = it ;

X = paddy,

Y = cs ;

X = john,

Y = n ;

X = moses,

Y = cs ;

X = john,

Y = n ;

X = michel,

Y = cs ;

X = nansamba,

Y = it ;

X = mary,

Y = (is) ;

X = sozi,

Y = cs ;

X = phionah,

Y = cs ;

X = irene,

Y = it ;

X = richard,

Y = cs.

2c).

?-

| get_student_grade(A,B,C).

A = viola,

B = 80,

C = 5 ;

A = roland,

B = 80,

C = 5 ;

A = aida,

B = 80,

C = 5 ;

A = namale,

B = 100,

C = 5 ;

A = kizza,

B = 90,

C = 5 ;

A = resty,

B = 75,

C = 4 ;

A = brenda,

B = 70,

C = 4 ;

A = stom,

B = 70,

C = 4 ;

A = jerome,

B = 70,

C = 4 ;

A = bukenya,

B = 75,

C = 4 ;

A = gloria,

B = 60,

C = 3 ;

A = gladys,

B = 60,

C = 3 ;

A = sinan,

B = 65,

C = 3 ;

A = musasi,

B = 55,

C = 2 ;

A = samson,

B = 57,

C = 2 ;

A = sadiki,

B = 52,

C = 2 ;

A = charles,

B = 20,

C = 1 ;

A = junior,

B = 40,

C = 1 ;

A = sam,

B = 30,

C = 1 ;

A = nabukera,

B = 30,

C = 1.

2d)

?- compute_student_gp1(A,B).

5

20

0.31746031746031744

A = roland,

B = ist1204

NO3

3a)

?-

| student_belongs(A,B),member_of_department(C,B).

A = sam,

B = cs,

C = kizito ;

A = sam,

B = cs,

C = bk ;

A = sam,

B = cs,

C = paddy ;

A = sam,

B = cs,

C = rose ;

A = sam,

B = cs,

C = paddy ;

A = sam,

B = cs,

C = moises ;

A = sam,

B = cs,

C = michel ;

A = sam,

B = cs,

C = sozi ;

A = sam,

B = cs,

C = phionah ;

A = sam,

B = cs,

C = richard ;

A = brenda,

B = cs,

C = kizito ;

A = brenda,

B = cs,

C = bk ;

A = brenda,

B = cs,

C = paddy

A = brenda,

B = cs,

C = rose ;

A = brenda,

B = cs,

C = paddy ;

A = brenda,

B = cs,

C = moises ;

A = brenda,

B = cs,

C = michel ;

A = brenda,

B = cs,

C = sozi ;

A = brenda,

B = cs,

C = phionah ;

A = brenda,

B = cs,

C = richard ;

A = namale,

B = cs,

C = kizito ;

A = namale,

B = cs,

C = bk ;

A = namale,

B = cs,

C = paddy ;

A = namale,

B = cs,

C = rose ;

A = namale,

B = cs,

C = paddy ;

A = namale,

B = cs,

C = moses ;

A = namale,

B = cs,

C = michel ;

A = namale,

B = cs,

C = sozi

A = namale,

B = cs,

C = phionah ;

A = namale,

B = cs,

C = richard ;

A = junior,

B = cs,

C = kizito ;

A = junior,

B = cs,

C = bk ;

A = junior,

B = cs,

C = paddy ;

A = junior,

B = cs,

C = rose ;

A = junior,

B = cs,

C = paddy ;

A = junior,

B = cs,

C = moses ;

A = junior,

B = cs,

C = michel ;

A = junior,

B = cs,

C = sozi ;

A = junior,
B = cs,
C = phionah ;
A = junior,
B = cs,
C = richard ;
A = charles,
B = cs,
C = kizito ;
A = charles,
B = cs,
C = bk ;
A = charles,
B = cs,
C = paddy
A = charles,
B = cs,
C = rose ;
A = charles,
B = cs,
C = paddy ;
A = charles,
B = cs,
C = moses ;
A = charles,
B = cs,
C = michel ;
A = charles,
B = cs,
C = sozi ;
A = charles,

B = cs,

C = phionah ;

A = charles,

B = cs,

C = richard ;

A = samson,

B = it,

C = nakibuule ;

A = samson,

B = it,

C = nansamba ;

A = samson,

B = it,

C = irene ;

A = roland,

B = (is),

C = byansi ;

A = roland,

B = (is),

C = mary ;

A = bukenya,

B = cs,

C = Kizito

A = bukenya,

B = cs,

C = bk ;

A = bukenya,

B = cs,

C = paddy ;

A = bukenya,

B = cs,

C = rose ;

A = bukenya,

B = cs,

C = paddy ;

A = bukenya,

B = cs,

C = moses ;

A = bukenya,

B = cs,

C = michel ;

A = bukenya,

B = cs,

C = sozi ;

A = bukenya,

B = cs,

C = phionah ;

A = bukenya,

B = cs,

C = richard ;

A = kizza,

B = it,

C = nakibuule ;

A = kizza,

B = it,

C = nansamba ;

A = kizza,

B = it,

C = irene ;

A = sadiki,

B = n,

C = kizito ;

A = sadiki,

B = n,

C = john ;

A = sadiki,

B = n,

C = john ;

A = nabukera,

B = cs,

C = kizito ;

A = nabukera,

B = cs,

C = bk ;

A = nabukera,

B = cs,

C = paddy ;

A = nabukera,

B = cs,

C = rose ;

A = nabukera,

B = cs,

C = paddy ;

A = nabukera,

B = cs,

C = moses ;

A = nabukera,

B = cs,

C = michel ;

A = nabukera,

B = cs,

C = sozi ;

A = nabukera,

B = cs,

C = phionah ;

A = nabukera,

B = cs,

C = richard ;

A = sinan,

B = cs,

C = kizito ;

A = sinan,

B = cs,

C = bk ;

A = sinan,

B = cs,

C = paddy ;

A = sinan,

B = cs,

C = rose ;

A = sinan,

B = cs,

C = paddy ;

A = sinan,

B = cs,

C = moises ;

A = sinan,

B = cs,

C = michel ;

A = sinan,

B = cs,

C = sozi ;

A = sinan,

B = cs,

C = phionah ;

A = sinan,

B = cs,

C = richard ;

false.

3b)

?- get_student_grade(A,B,C),C<3.

A = musasi,

B = 55,

C = 2 ;

A = samson,

B = 57,

C = 2 ;

A = sadiki,

B = 52,

C = 2 ;

A = charles,

B = 20,

C = 1 ;

A = junior,

B = 40,

C = 1 ;

A = sam,

B = 30,

C = 1 ;

A = nabukera,

B = 30,

C = 1.

3c)

?- member_of_department(A,B),member_of_department(A,C),\+(B=C).

A = kizito,

B = cs,

C = n ;