

CS210 : ARTIFICIAL INTELLIGENCE LAB

LAB ASSIGNMENT 7: AI & Python

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**SV NATIONAL INSTITUTE OF TECHNOLOGY
SURAT**

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1. Classics Example of Logical Programming

- Movie database : provides a couple of thousands of facts about movies for you to query.

OUTPUT----

M

the_big_lebowski

A

joseph_d_kucan

g_rard_depardieu

joel_coen

joel_coen

joel_coen

joel_coen

joel_coen

joel_coen

joel_coen

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joel_coen
joel_coen
harold_ramis
ivan_reitman
roman_coppola
harold_ramis
francis_ford_coppola
francis_ford_coppola
francis_ford_coppola
francis_ford_coppola
francis_ford_coppola
francis_ford_coppola
francis_ford_coppola
roman_coppola
george_lucas
sam_raimi
sam_raimi
joel_coen
joel_coen
joel_coen
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joel_coen
joel_coen
joel_coen
joel_coen
joel_coen
sam_raimi
roman_coppola
spike_jonze
roman_coppola
eric_schaeffer
eric_schaeffer

sofia_coppola
sofia_coppola
sofia_coppola
sofia_coppola
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sofia_coppola
sofia_coppola
sofia_coppola
sofia_coppola
va_g_rdos

M

girl_with_a_pearl_earring
lost_in_translation
the_man_who_wasn_t_there
the_man_who_wasn_t_there
an_american_rhapsody
the_black_dahlia
fall
eight_legged_freaks
ghost_world
a_good_woman
if_lucy_fell
home_alone_3
the_horse_whisperer
in_good_company
just_cause
the_island
a_love_song_for_bobby_long
manny_lo
match_point
my_brother_the_pig
north

D

peter_webber
sofia_coppola
ethan_coen
joel_coen
va_g_rdos
brian_de_palma
eric_schaeffer
ellory_elkayem
terry_zwigoff
mike_barker
eric_schaeffer
raja_gosnell
robert_redford
paul_weitz
arne_glimcher
michael_bay
shainee_gabel
lisa_krueger
woody_allen
erik_fleming
rob_reiner

the_perfect_score	brian_robbins	
the_spongebob_squarepants_movie	stephen_hillenburg	
untitled_woody_allen_fall_project_2006	woody_allen	
M1	A	M2
barton_fink	lance_davis	anna
the_big_lebowski	john_goodman	barton_fink
the_big_lebowski	john_goodman	o_brother_where_art_thou
the_big_lebowski	john_goodman	raising_arizona
the_big_lebowski	steve_buscemi	barton_fink
the_big_lebowski	steve_buscemi	fargo
the_big_lebowski	steve_buscemi	miller_s_crossing
the_big_lebowski	steve_buscemi	paris_je_t_aime
the_big_lebowski	steve_buscemi	ghost_world
the_big_lebowski	peter_stormare	fargo
the_big_lebowski	john_turturro	barton_fink
the_big_lebowski	john_turturro	miller_s_crossing
the_big_lebowski	john_turturro	o_brother_where_art_thou
the_big_lebowski	harry_bugin	barton_fink
the_big_lebowski	ben_gazzara	paris_je_t_aime
the_big_lebowski	jon_polito	barton_fink
the_big_lebowski	jon_polito	miller_s_crossing
the_big_lebowski	warren_keith	fargo
the_big_lebowski	warren_keith	raising_arizona
	william_preston_rob	
blood_simple	ertson	barton_fink
the_cotton_club	bob_hoskins	paris_je_t_aime
the_cotton_club	nicolas_cage	peggy_sue_got_married
the_cotton_club	nicolas_cage	raising_arizona
the_cotton_club	nicolas_cage	rumble_fish
		hearts_of_darkness_a_filmmaker_s_a
the_cotton_club	laurence_fishburne	pocalypse
the_cotton_club	laurence_fishburne	rumble_fish
the_cotton_club	laurence_fishburne	just_cause
the_cotton_club	tom_waits	rumble_fish
the_cotton_club	glenn_withrow	peggy_sue_got_married
the_cotton_club	glenn_withrow	rumble_fish
the_cotton_club	marc_coppola	north
		star_wars_episode_i__the_phantom_
the_cotton_club	ralph_brown	menace
crimewave	brion_james	blade_runner
down_from_the_mountain	joel_coen	crimewave
fargo	steve_buscemi	barton_fink
fargo	bruce_campbell	crimewave

the_firm	tom_cruise	mission_impossible
the_firm	ed_harris	just_cause
girl_with_a_pearl_earring	tom_wilkinson	a_good_woman
girl_with_a_pearl_earring	leslie_woodhall	cq
the_godfather	marlon_brando	hearts_of_darkness_a_filmmaker_s_a
the_godfather	robert_duvall	pocalypse
the_godfather	abe_vigoda	hearts_of_darkness_a_filmmaker_s_a
the_godfather	richard_bright	pocalypse
the_godfather	gian_carlo_coppola	north
the_godfather_part_ii	al_pacino	crimewave
the_godfather_part_ii	robert_duvall	rumble_fish
the_godfather_part_ii	robert_duvall	the_godfather
the_godfather_part_ii	robert_duvall	the_godfather
the_godfather_part_ii	robert_de_niro	hearts_of_darkness_a_filmmaker_s_a
the_godfather_part_ii	john_cazale	pocalypse
the_godfather_part_ii	g_d_spradlin	hearts_of_darkness_a_filmmaker_s_a
the_godfather_part_ii	richard_bright	pocalypse
the_godfather_part_ii	richard_bright	crimewave
the_godfather_part_ii	tom_rosqui	the_godfather
the_godfather_part_ii	frank_sivero	the_godfather
the_godfather_part_ii	dominic_chianese	the_godfather
the_godfather_part_ii	joe_spinell	if_lucy_fell
the_godfather_part_ii	james_caan	the_godfather
the_godfather_part_ii	abe_vigoda	the_godfather
the_godfather_part_ii	abe_vigoda	north
the_godfather_part_ii	gianni_russo	the_godfather
the_godfather_part_ii	father_joseph_mede	the_godfather
the_godfather_part_ii	glia	the_godfather
the_godfather_part_ii	joe_lo_grippo	the_godfather
the_godfather_part_ii	roman_coppola	hearts_of_darkness_a_filmmaker_s_a
the_godfather_part_ii	roman_coppola	pocalypse
the_godfather_part_iii	al_pacino	star_wars_episode_i__the_phantom_
the_godfather_part_iii	al_pacino	menace
the_godfather_part_iii	richard_bright	the_godfather
the_godfather_part_iii	richard_bright	the_godfather_part_ii
the_godfather_part_iii	richard_bright	crimewave
the_godfather_part_iii	franco_citti	the_godfather
the_godfather_part_iii	al_martino	the_godfather

the_godfather_part_iii	carmine_caridi	the_godfather_part_ii
the_godfather_part_iii	gabriele_torrei	the_godfather
the_godfather_part_iii	james_caan	the_godfather
the_godfather_part_iii	james_caan	the_godfather_part_ii
the_godfather_part_iii	richard_s_castellano	the_godfather
the_godfather_part_iii	john_cazale	the_godfather
the_godfather_part_iii	john_cazale	the_godfather_part_ii
the_godfather_part_iii	lee_strasberg	the_godfather_part_ii
groundhog_day	bill_murray	ghost_busters
groundhog_day	rick_overton	eight_legged_freaks
groundhog_day	harold_ramis	ghost_busters
the_hudsucker_proxy	charles_durning	o_brother_where_art_thou
the_hudsucker_proxy	john_mahoney	barton_fink
the_hudsucker_proxy	bill_cobbs	the_cotton_club
the_hudsucker_proxy	bruce_campbell	crimewave
the_hudsucker_proxy	bruce_campbell	fargo
the_hudsucker_proxy	bruce_campbell	intolerable_cruelty
the_hudsucker_proxy	harry_bugin	barton_fink
the_hudsucker_proxy	harry_bugin	the_big_lebowski
the_hudsucker_proxy	i_m_hobson	barton_fink
the_hudsucker_proxy	richard_woods	miller_s_crossing
the_hudsucker_proxy	peter_gallagher	american_beauty
the_hudsucker_proxy	steve_buscemi	barton_fink
the_hudsucker_proxy	steve_buscemi	the_big_lebowski
the_hudsucker_proxy	steve_buscemi	fargo
the_hudsucker_proxy	steve_buscemi	miller_s_crossing
the_hudsucker_proxy	steve_buscemi	paris_je_t_aime
the_hudsucker_proxy	steve_buscemi	ghost_world
the_hudsucker_proxy	sam_raimi	miller_s_crossing
the_hudsucker_proxy	sam_raimi	spies_like_us
the_hudsucker_proxy	jon_polito	barton_fink
the_hudsucker_proxy	jon_polito	the_big_lebowski
the_hudsucker_proxy	jon_polito	miller_s_crossing
the_hudsucker_proxy	john_goodman	barton_fink
the_hudsucker_proxy	john_goodman	the_big_lebowski
the_hudsucker_proxy	john_goodman	o_brother_where_art_thou
the_hudsucker_proxy	mario_todisco	raising_arizona
the_hudsucker_proxy	mario_todisco	ghost_busters
the_hudsucker_proxy	mike_starr	miller_s_crossing
the_hudsucker_proxy	mike_starr	miller_s_crossing
the_hudsucker_proxy	peter_siragusa	the_black_dahlia
intolerable_cruelty	billy_bob_thornton	the_big_lebowski
		down_from_the_mountain

intolerable_cruelty	colin_linden	down_from_the_mountain
intolerable_cruelty	bruce_campbell	crimewave
intolerable_cruelty	bruce_campbell	fargo
the_ladykillers	john_mcconnell	millers_crossing
the_ladykillers	john_mcconnell	o_brother_where_art_thou
the_ladykillers	stephen_root	blade_runner
the_ladykillers	stephen_root	o_brother_where_art_thou
the_ladykillers	blake_clark	intolerable_cruelty
the_ladykillers	bruce_campbell	crimewave
the_ladykillers	bruce_campbell	fargo
the_ladykillers	bruce_campbell	the_hudsucker_proxy
the_ladykillers	bruce_campbell	intolerable_cruelty
lost_in_translation	bill_murray	ghostbusters
lost_in_translation	bill_murray	groundhog_day
the_man_who_wasnt_there	billy_bob_thornton	down_from_the_mountain
the_man_who_wasnt_there	billy_bob_thornton	intolerable_cruelty
the_man_who_wasnt_there	michael_badalucco	millers_crossing
the_man_who_wasnt_there	michael_badalucco	o_brother_where_art_thou
the_man_who_wasnt_there	jon_polito	barton_fink
the_man_who_wasnt_there	jon_polito	the_big_lebowski
the_man_who_wasnt_there	jon_polito	the_hudsucker_proxy
the_man_who_wasnt_there	jon_polito	millers_crossing
the_man_who_wasnt_there	richard_jenkins	intolerable_cruelty
the_man_who_wasnt_there	tony_shalhoub	barton_fink
the_man_who_wasnt_there	tom_dahlgren	the_godfather_part_ii
the_man_who_wasnt_there	booth_colman	intolerable_cruelty
the_man_who_wasnt_there	peter_siragusa	the_big_lebowski
the_man_who_wasnt_there	peter_siragusa	the_hudsucker_proxy
the_man_who_wasnt_there	george_ives	intolerable_cruelty
the_man_who_wasnt_there	kenneth_hughes	the_island
the_man_who_wasnt_there	geoffrey_gould	o_brother_where_art_thou
marie_antoinette	jason_schwartzman	cq
millers_crossing	john_turturro	barton_fink
millers_crossing	jon_polito	barton_fink
millers_crossing	steve_buscemi	barton_fink
millers_crossing	steve_buscemi	fargo
millers_crossing	steve_buscemi	ghost_world
millers_crossing	mario_todisco	ghostbusters
millers_crossing	olek_krupa	home_alone_3
millers_crossing	william_preston_rob	
millers_crossing	ertson	barton_fink
millers_crossing	william_preston_rob	
millers_crossing	ertson	blood_simple

o_brother_where_art_thou	george_clooney	intolerable_cruelty
o_brother_where_art_thou	john_turturro	barton_fink
o_brother_where_art_thou	john_turturro	miller_s_crossing
o_brother_where_art_thou	tim_blake_nelson	down_from_the_mountain
o_brother_where_art_thou	john_goodman	barton_fink
o_brother_where_art_thou	chris_thomas_king	down_from_the_mountain
o_brother_where_art_thou	michael_badalucco	miller_s_crossing
o_brother_where_art_thou	royce_d_applegate	intolerable_cruelty
o_brother_where_art_thou	stephen_root	blade_runner
o_brother_where_art_thou	john_mcconnell	miller_s_crossing
o_brother_where_art_thou	issac_freeman	down_from_the_mountain
o_brother_where_art_thou	wilson_waters_jr	down_from_the_mountain
o_brother_where_art_thou	robert_hamlett	down_from_the_mountain
o_brother_where_art_thou	willard_cox	down_from_the_mountain
o_brother_where_art_thou	sidney_cox	down_from_the_mountain
o_brother_where_art_thou	buck_white	down_from_the_mountain
o_brother_where_art_thou	jerry_douglas	down_from_the_mountain
the_outsiders	matt_dillon	rumble_fish
the_outsiders	emilio_estevez	mission_impossible
the_outsiders	tom_cruise	the_firm
the_outsiders	tom_cruise	mission_impossible
the_outsiders	glenn_withrow	the_cotton_club
the_outsiders	glenn_withrow	peggy_sue_got_married
the_outsiders	glenn_withrow	rumble_fish
the_outsiders	tom_waits	the_cotton_club
the_outsiders	tom_waits	rumble_fish
the_outsiders	william_smith	rumble_fish
the_outsiders	daniel_r_suhart	peggy_sue_got_married
paris_je_t_aime	steve_buscemi	barton_fink
paris_je_t_aime	steve_buscemi	fargo
paris_je_t_aime	steve_buscemi	miller_s_crossing
paris_je_t_aime	steve_buscemi	ghost_world
raising_arizona	nicolas_cage	peggy_sue_got_married
raising_arizona	john_goodman	barton_fink
raising_arizona	john_goodman	o_brother_where_art_thou
raising_arizona	warren_keith	fargo
raising_arizona	m_emmet_walsh	blood_simple
raising_arizona	david_schneider	mission_impossible
raising_arizona	william_preston_rob	
raising_arizona	ertson	barton_fink
raising_arizona	william_preston_rob	
raising_arizona	ertson	blood_simple
raising_arizona	william_preston_rob	
raising_arizona	ertson	miller_s_crossing

rumble_fish	dennis_hopper	hearts_of_darkness_a_filmaker_s_a
rumble_fish	nicolas_cage	pocalypse
rumble_fish	nicolas_cage	peggy_sue_got_married
		raising_arizona
		hearts_of_darkness_a_filmaker_s_a
rumble_fish	laurence_fishburne	pocalypse
rumble_fish	laurence_fishburne	just_cause
rumble_fish	glenn_withrow	peggy_sue_got_married
spies_like_us	dan_aykroyd	ghost_busters
spies_like_us	dan_aykroyd	north
spies_like_us	joel_coen	crimewave
spies_like_us	joel_coen	down_from_the_mountain
spies_like_us	sam_raimi	miller_s_crossing
spies_like_us	ricco_ross	mission_impossible
star_wars_episode_i__the_phantom		
_menace	frank_oz	spies_like_us
star_wars_episode_i__the_phantom		hearts_of_darkness_a_filmaker_s_a
_menace	roman_coppola	pocalypse
star_wars_episode_i__the_phantom		
_menace	john_knoll	mission_impossible
torrance_rises	roman_coppola	the_godfather_part_ii
		hearts_of_darkness_a_filmaker_s_a
torrance_rises	roman_coppola	pocalypse
		star_wars_episode_i__the_phantom_
torrance_rises	roman_coppola	menace
the_usual_suspects	gabriel_byrne	miller_s_crossing
the_usual_suspects	kevin_spacey	american_beauty
the_usual_suspects	giancarlo_esposito	the_cotton_club
the_usual_suspects	dan_hedaya	blood_simple
the_usual_suspects	paul_bartel	frankenweenie
the_usual_suspects	clark_gregg	in_good_company
the_usual_suspects	ron_gilbert	the_godfather
the_virgin_suicides	josh_hartnett	the_black_dahlia
the_virgin_suicides	anthony_desimone	lick_the_star
the_virgin_suicides	robert_schwartzman	lick_the_star
the_virgin_suicides	giovanni_ribisi	lost_in_translation
the_black_dahlia	patrick_fischler	ghost_world
the_black_dahlia	mike_starr	miller_s_crossing
ghost_world	steve_buscemi	barton_fink
ghost_world	steve_buscemi	fargo
if_lucy_fell	eric_schaeffer	fall
if_lucy_fell	david_thornton	home_alone_3
home_alone_3	pat_healy	ghost_world
the_horse_whisperer	chris_cooper	american_beauty

in_good_company	john_cho	american_beauty
just_cause	laurence_fishburne	hearts_of_darkness_a_filmmaker_s_a pocalypse
the_island	ewan_mcgregor	star_wars_episode_i__the_phantom_ menace
the_island	steve_buscemi	barton_fink
the_island	steve_buscemi	the_big_lebowski
the_island	steve_buscemi	fargo
the_island	steve_buscemi	the_hudsucker_proxy
the_island	steve_buscemi	miller_s_crossing
the_island	steve_buscemi	paris_je_t_aime
the_island	steve_buscemi	ghost_world
my_brother_the_pig	alex_d_linz	home_alone_3
north	dan_aykroyd	ghost_busters
the_spongebob_squarepants_movie	dee_bradley_baker	my_brother_the_pig
untitled_woody_allen_fall_project_2 006	james_nesbitt	match_point
untitled_woody_allen_fall_project_2 006	colin_salmon	match_point
M	Y	
cq		2001
down_from_the_mountain		2000
girl_with_a_pearl_earring		2003
hail_caesar		2006
intolerable_cruelty		2003
the_ladykillers		2004
lost_in_translation		2003
the_man_who_wasn_t_there		2001
marie_antoinette		2006
no_country_for_old_men		2007
o_brother_where_art_thou		2000
paris_je_t_aime		2006
an_american_rhapsody		2001
the_black_dahlia		2006
eight_legged_freaks		2002
ghost_world		2000
a_good_woman		2004
in_good_company		2004
the_island		2005
a_love_song_for_bobby_long		2004
match_point		2005
the_perfect_score		2004
the_spongebob_squarepants_movie		2004

untitled_woody_allen_fall_project_2		
006		2006
a_view_from_the_bridge		2006
M	Y	
american_beauty		1999
anna		1987
barton_fink		1991
the_big_lebowski		1998
blade_runner		1997
blood_simple		1984
the_cotton_club		1984
crimewave		1985
fargo		1996
the_firm		1993
frankenweenie		1984
ghost_busters		1984
the_godfather		1972
the_godfather_part_ii		1974
the_godfather_part_iii		1990
groundhog_day		1993
hearts_of_darkness_a_filmmaker_s_		
apocalypse		1991
the_hudsucker_proxy		1994
inside_monkey_zetterland		1992
lick_the_star		1998
miller_s_crossing		1990
mission_impossible		1996
the_outsiders		1983
peggy_sue_got_married		1986
raising_arizona		1987
rumble_fish		1983
spies_like_us		1985
star_wars_episode_i__the_phantom		
_menace		1999
torrance_rises		1999
the_usual_suspects		1995
the_virgin_suicides		1999
fall		1997
if_lucy_fell		1996
home_alone_3		1997
the_horse_whisperer		1998
just_cause		1995
manny_lo		1996
my_brother_the_pig		1999

north

1994

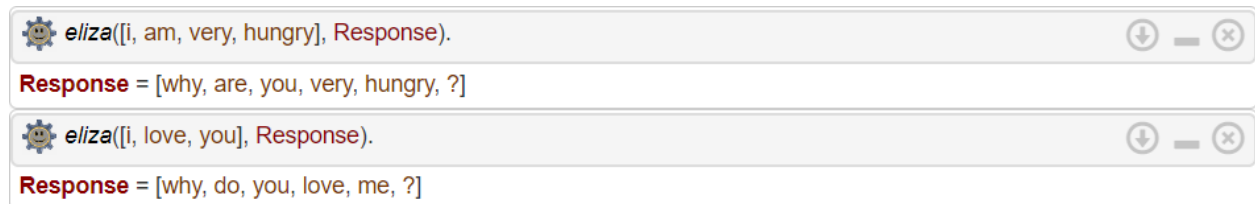
M

down_from_the_mountain

o_brother_where_art_thou

ghost_world

- Eliza: implements the classical shrink.



- Expert system: illustrates simple meta-interpretation of rules and asking for missing knowledge.

2. Run the sample example given.

a) discuss the sample example given of Sam's likes and dislikes in food.

b) Identify the facts in the sample example.




















c) Identify the rules in the taken example.

d) Run what does Sam likes.

e) Sem likes curry.

f) Add a new rule that Mohit eat whatever Sem likes.

g) Tracing the execution of a Prolog query allows you to see all of the goals that are executed as part of the query, in sequence, along with whether or not they succeed. Show the steps occur in the above program.

 <code>likes(sam,dahl).</code>	  
true	1
false	
 <code>likes(sam,chop_suey).</code>	  
true	1
false	
 <code>likes(sam,pizza).</code>	  
true	1
false	
 <code>likes(sam,chips).</code>	  
true	1
 <code>likes(sam,curry).</code>	  
false	