```prolog
field('Data science','Data Scientist').
field('Ml research','ML Researcher').
field('VLSI research','VLSI Researcher').
field('HCI','HCI Researcher').
field('Operating Systems','Systems Researcher').
field('Algorithm research', 'Algorithm Researcher').
field('Cryptography research', 'Cryptography Researcher').

branch_subjects('Data Scientist', ['DS(Data Science)', 'DBMS']).
branch_subjects('Security engineer', ['FCS(Foundation of computer security)',
 'SE(Security Engineering)', 'NS(Network Security)']).
branch_subjects('Game Developer', ['CG(Computer Graphics)',
 'GDD(Game Developement and Design)']).
branch_subjects('Sys Admin', ['SM(Systems Management)',
 'OS(Operating Systems)']).
branch_subjects('Financial analyst', ['Microeconomics', 'PS(Probability and Statistics)'
, 'FF(Foundation of Finance)']).
branch_subjects('Social Scientist', ['Sociology', 'Econometrics']).
branch_subjects('UI UX Developer', ['MC(Mobile Computing)', 'ID(Introduction to Design)']).

external_avenues('Internships').
external_avenues('GSOCs').
external_avenues('Fellowships').

external('Internships', 'Data Science', 'Data Scientist').
external('Internships', 'Computer Security', 'Security engineer').
external('Internships', 'Database', 'Database Adminstrator').
external('Internships', 'Backend Developement', 'Backend Developer').
external('Internships', 'UI UX Developement', 'UI UX Developer').
external('GSOCs', 'Data Science', 'Data Scientist').
external('GSOCs', 'Operating Systems', 'Systems engineer').
external('GSOCs', 'UI UX Developement', 'UI UX Developer').
external('GSOCs', 'Unit Testing', 'Quality Tester').
external('GSOCs', 'Game Developement', 'Game Developer').
external('Fellowships', 'Algorithm research', 'Algorithm Researcher').
external('Fellowships', 'Operating Systems','Systems Researcher').
external('Fellowships', 'HCI','HCI Researcher').
external('Fellowships', 'VLSI research','VLSI Researcher').
external('Fellowships', 'Ml research','ML Researcher').

get_rank(Y):- retract(rank(X)), Y is X+1, assert(rank(Y)).

add_job(X,Y):- retract(job_record(X,Z)),!,D is (1000/Y)+Z, assert(job_record(X,D)).
```

```prolog
add_job(X,Y):- D is (1000/Y), assert(job_record(X,D)).

btp(_) :- write('Did you do a BTP?'),nl,read(Y), Y=y.

btp_subj(X, Y1):- field(X,Y1), write('Did you do a btp in '),write(X),nl, read(Y), Y=y,!,
write('Did you like it?'),nl,read(Y2),Y2 =y .

base_job(_,Rank) :- write('Did you get >=8 in all CSE core courses'),nl, read(Y), Y=y,
assert(found_job('Software Developer','Has the neccesary core CSE skills.')),add_job('Software
Developer',Rank),assert(curr(Rank)),fail.

branch_job(X, Rank) :- branch_subjects(X, L), write('Did you do >= 2 in the following coures and
get >=8 gpa in them? Courses: ')
, write_courses(L),nl, read(Y), Y=y,
assert(found_job(X,'Has done the neccesary coures.')),add_job(X,Rank),assert(curr(Rank)),fail.

write_courses([H|L]):- write(H),write(" "), write_courses(L).
write_courses([]).

external_job(X,Rank) :- write('Did you do one or more than one '), write(X), nl, read(Ans), Ans=y,
external(X, Y, Z), write('Did you do it in '), write(Y), nl, read(Ans1), Ans1 = y,
atom_concat('Has done a ',X,
Re),assert(found_job(Z,Re)),add_job(Z,Rank),assert(curr(Rank)),fail.

job(_) :- retract(rank(_)), fail.
job(_) :- assert(rank(0)), fail.
job(X) :- get_rank(Y),btp(_),btp_subj(X, Y1), assert(found_job(Y1,'Has done BTP in the subject
and liked it.')),
assert(curr(Y)),add_job(Y1,Y),fail.
job(X) :- get_rank(Y),nl,branch_job(X, Y).
job(X) :- get_rank(Y),nl, external_avenues(X), external_job(X, Y).
job(_) :- get_rank(Y),base_job(_,Y).
job(_) :- get_job_score(L),keysort(L, L1),reverse(L1, L2),nl,result(L2).
result([]):-write('At present none of the jobs seem suitable try building up your resume.').
result(L2):-
write('The following are the job suggestions displayed in an order from most to least
appropriate:'),
nl,print_jobs(L2,1).
/*job(_) :- find_list(L1,L2,L3), write_l(L1,L2,L3).*/


get_job_score([H2-[H1] | L]) :- retract(job_record(H1, H2)), get_job_score(L).
get_job_score([]).
```

```prolog
find_job_reasons(H1, [H2 | L]):- retract(found_job(H1,H2)), find_job_reasons(H1, L).
find_job_reasons(_, []).

print_l([H1|L], Y, Cur):- write(Cur),write('.'),write(Y), write(': '), write(H1), nl, D is Y+1,
print_l(L, D, Cur).
print_l([], _, _).

print_jobs([_-[H1] | L],Rank):- write(Rank),write(')'),write(H1),
write(' due to the following reasons: '), nl,
find_job_reasons(H1, L1), print_l(L1,1,Rank),nl, D is Rank+1, print_jobs(L, D).
print_jobs([],_).

find_list([H1|L1], [H2|L2], [H3|L3]) :- retract(found_job(H1,H2)), retract(curr(H3)),find_list(L1, L2,
L3).
find_list([],[],[]).

write_l([H1| L1], [H2| L2], [H3|L3]) :- write('Rank level: '), write(H3), write(" "),
write(H1), write(" "), write(H2), nl, write_l(L1, L2, L3).
write_l([], [], []).
```

Screenshots:


```
Did you like it?
|: y.
Did you do >= 2 in the following coures and get >=8 gpa in them? Courses: DS(Data Science) DBMS
|: y.
Did you do >= 2 in the following coures and get >=8 gpa in them? Courses: FCS(Foundation of computer security) SE(Security Engineering) NS(Network Security)
|: y.
Did you do >= 2 in the following coures and get >=8 gpa in them? Courses: CG(Computer Graphics) GDD(Game Developement and Design)
|: n.
Did you do >= 2 in the following coures and get >=8 gpa in them? Courses: SM(Systems Management) OS(Operating Systems)
|: n.
Did you do >= 2 in the following coures and get >=8 gpa in them? Courses: Microeconomics PS(Probability and Statistics) FF(Foundation of Finance)
|: n.
Did you do >= 2 in the following coures and get >=8 gpa in them? Courses: Sociology Econometrics
|: n.
Did you do >= 2 in the following coures and get >=8 gpa in them? Courses: MC(Mobile Computing) ID(Introduction to Design)
|: y.
Did you do one or more than one Internships
|: y.
Did you do it in Data Science
|: y.
Did you do it in Computer Security
|: y.
Did you do it in Database
|: n.
Did you do it in Backend Development
|: n.
Did you do it in UI UX Developement
|: n.
Did you do one or more than one GSOCs
|: n.
Did you do one or more than one Fellowships
|: n.
Did you get >=8 in all CSE core courses
|: n.

The following are the job suggestions displayed in an order from most to least appropriate:
1)Data Scientist due to the following reasons:
1.1: Has done BTP in the subject and liked it.
1.2: Has done the neccesary coures.
1.3: Has done a Internships

2)Security engineer due to the following reasons:
2.1: Has done the neccesary coures.
2.2: Has done a Internships

3)UI UX Developer due to the following reasons:
3.1: Has done the neccesary coures.

4)Social Scientist due to the following reasons:
4.1: Has done the neccesary coures.

true .
?-
```



```
|: y.
Did you do >= 2 in the following coures and get >=8 gpa in them? Courses: CG(Computer Graphics) GDD(Game Developement and Design)
|: y.
Did you do >= 2 in the following coures and get >=8 gpa in them? Courses: SM(Systems Management) OS(Operating Systems)
|: y.
Did you do >= 2 in the following coures and get >=8 gpa in them? Courses: Microeconomics PS(Probability and Statistics) FF(Foundation of Finance)
|: n.
Did you do >= 2 in the following coures and get >=8 gpa in them? Courses: Sociology Econometrics
|: n.
Did you do >= 2 in the following coures and get >=8 gpa in them? Courses: MC(Mobile Computing) ID(Introduction to Design)
|: y.

Did you do one or more than one Internships
|: n.
Did you do one or more than one GSOCs
|: n.
Did you do one or more than one Fellowships
|: y.
Did you do it in Algorithm research
|: y.
Did you do it in Operating Systems
|: n.
Did you do it in HCI
|: n.
Did you do it in VLSI research
|: n.
Did you do it in Ml research
|: n.
Did you get >=8 in all CSE core courses
|: y.

The following are the job suggestions displayed in an order from most to least appropriate:
1)UI UX Developer due to the following reasons:
1.1: Has done the neccesary coures.

2)Sys Admin due to the following reasons:
2.1: Has done the neccesary coures.

3)Game Developer due to the following reasons:
3.1: Has done the neccesary coures.

4)Security engineer due to the following reasons:
4.1: Has done the neccesary coures.

5)Data Scientist due to the following reasons:
5.1: Has done the neccesary coures.

6)Algorithm Researcher due to the following reasons:
6.1: Has done a Fellowships

7)Software Developer due to the following reasons:
7.1: Has the neccesary core CSE skills.

true .
?-
```