ASSIGNMENT - 3

ANIKEIT SETHI(190001003)

Q1.)
```
change([],_, _, []).
change([H|T], H, Y, [Y|List]) :-
     change(T, H, Y, List), !.
change([H|T], X, Y, [H|List]) :-
     change(T, X, Y, List), !.
```
Q2.)
```
fib(0, 1) :- !.
fib(1, 1) :- !.
fib(N, R) :-
     N > 1,
     N1 is N-1,
     N2 is N-2,
     fib(N1, R1),
     fib(N2, R2),
     R is R1 + R2.
```
Q3.)
```
insert_at(Alpha, 1, List, [Alpha|List]):- !.
insert_at(Alpha, Pos, [H|L], [H|Rest]):-
     Pos1 is Pos - 1,
     insert_at(Alpha, Pos1 , L, Rest).
```
Q4.)
```
remove_at(1,[H|T],T, H):-
     write('Deleted element: '), write(H), !.
remove_at(Pos,[E|L],[E|ZL], _):-
     Pos1 is Pos - 1,
     remove_at(Pos1, L, ZL, _).
```
Q5.)
```
range(X, X, [X]) :- !.
range(X, Y, [X|List]) :-
     X =< Y,
     Z is X + 1,
     range(Z, Y, List).
```
Q6.)
```
gcd(0, X, X):-
     X > 0.
gcd(X, Y, Res):-
     X >= Y,
     X1 is X - Y, gcd(X1, Y, Res), !.
gcd(X, Y, Res):-
     X < Y, X1 is Y - X, gcd(X1, X, Res), !
```