|  |  |
| --- | --- |
| |  | | --- | | change(M,Ans):-length(M,N), N mod 2=:=0,!,      I is N//2,r(I,M,[],RUp,Down),z(I,N,RUp,Down,RUp1,Down1),      r(I,Ans,[],RUp1,Down1).    change(M,Ans):-length(M,N), I is N//2,J is N-I,      r(I,M,[],RUp,[Middle|Down]),z(J,N,RUp,Down,RUp1,Down1),      r(I,Ans,[],RUp1,[Middle|Down1]).      r(0,Down,RUp,RUp,Down):-!.  r(I,[H|Tail],RUpTail,RUp,Down):-I1 is I-1,r(I1,Tail,[H|RUpTail],RUp,Down).    z(\_,\_,[],[],[],[]).  z(J,N,[A|RUp],[B|Down],[A1|RUp1],[B1|Down1]):-      J1 is J+1,z(J1,N,RUp,Down,RUp1,Down1),      exchange(J,A,B,A1,B1).    exchange(0,[HA|TailA],[HB|TailB],[HB|TailA],[HA|TailB]):-!.  exchange(J,[HA|TailA],[HB|TailB],[HA|TailA1],[HB|TailB1]):-      J1 is J-1,exchange(J1,TailA,TailB,TailA1,TailB1). | |

?- change([[1,2,3,4,5],[6,7,8,9,10],[11,12,13,14,15],[16,17,18,19,20],[21,22,23,24,25]],Ans),write(Ans).  
[[1, 2, 3, 4, 25], [6, 7, 8, 19, 10], [11, 12, 13, 14, 15], [16, 17, 18, 9, 20], [21, 22, 23, 24, 5]]