

Problem 7**How Hard Can It Be?****5 Points****Program Name: baker.cpp****Input File: baker.dat**

There is a card game that resembles Klondike solitaire called “Baker’s Game” or “FreeCell”. The object of the game is not important in this problem because the first step is to deal cards and then determine just how difficult the dealt hand is to play. The 52 cards are dealt into 8 piles. The 4 leftmost piles each have 7 cards and the 4 rightmost piles each have 6 cards. A hand is scored for difficulty based on the depth and position of the key cards (aces, 2’s, 3’s and 4’s). Difficulty points are added as described in the table below.

Card/Rank	Points Added	Multiplier
Aces	5	Number of non-key cards on top of the key card. The top card is considered to be a depth of zero. So, if a ‘key card’ has two key cards on it and 3 non-key cards, the multiplier is 3. The total difficulty points for an individual card is its difficulty points * the multiplier for the position.
2’s	4	
3’s	2	
4’s	1	

Points are then subtracted while multiple key cards appear on the same pile. Specifically, for each pile, if the number (K) of key cards in the pile exceeds 1, K-1 points are subtracted from the difficulty total.

Consider the sample hand below. Note that Aces are denoted as a ‘1’; Tens are denoted as a ‘T’; Jacks are denoted as a ‘J’; Queens are denoted as a ‘Q’; and Kings are denoted as a ‘K’.

Pile Number	1	2	3	4	5	6	7	8
Piles	2	9	T	7	K	4	2	2
	J	6	K	5	9	8	K	9
	T	1	6	J	8	T	1	1
	T	3	9	Q	K	3	6	J
	J	5	4	3	4	7	5	8
	5	Q	4	1	Q	8	Q	7
	2	7	3	6				
Difficulty Points	4*5	5*3 + 2*3	0	2*1 + 5*1	1*1	1*4 + 2*2	4*4 + 5*3	4*4 + 5*3
Deductions	1	1	2	1	0	1	1	1
Pile Total	19	20	-2	6	1	7	30	30
Grand Total								111

You can see from the work in the above table that this hand is rated with 111 difficulty points.

Input

Input to your program consists of a series of dealt hands. Each hand consists of 6 lines of 8 ranks and 1 line of 4 ranks. These 7 lines form 4 piles of 7 cards and 4 piles of six cards where the first line of the hand being at the bottom of the piles. Each line will contain only valid ranks and there will be no spaces or other characters in the input file. Your program should read to end of file.

Output

Output from your program will consist of one line per dealt hand. Your program should print the difficulty score for each dealt hand starting in column 1 on consecutive lines. Your program should not print any other extraneous output or blank lines.

Example: Input File

29T7K422
J6K598K9
T16J8T11
T39QK36J
J5434758
5Q41Q8Q7
2736
94J4TT13
4K63T3Q9
7KQ25156
52J791Q8
K4T7Q263
9J178KJ8
6528
Q9T2J53K
T2J7182K
67446398
18755393
1921Q45T
48K66KJQ
7Q TJ

Output to screen

111
89
116