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All submissions for this problem are available.

Pankaj, the right arm fast bowler bowls **B** regular balls and at most **N** free-hit balls due to his inconsistent line and length. Now, If a batsman scores 0 runs of a ball, then the ball is considered to be a 'dot ball'. The batsman can either play a single ball bowled as a dot ball, or may score 1, 2, 4 or 6 runs from it. This scoring principle is same for both the regular balls as well as for the free-hit balls. The cricket match can end due to one of the following reasons.

- Either there are no regular balls remaining (irrespective of the number of free-hit balls remaining).
- Or the batsman scores 100 or more runs(irrespective of the number of regular balls or 'no-balls' remaining).

The batting side wins the game if the batsman scores 100 or more runs. Also, since the batsman is a power hitter, he never plays three continuous regular balls as dot balls. Three regular balls are considered continuous even if there are free-hit balls bowled in between them. The free-hit balls although offer a good opportunity to the batsman to score runs but they are actually served as penalty on the part of bowler and hence, not taken into consideration of counting them as a regular ball. For example, if the bowler delivers the following sequence of balls i.e [regular ball][regular ball][free-hit ball][regular ball]. Then, it is not possible to score zero runs of all the three regular balls, irrespective of the runs scored from the free-hit balls between them.

Find the number of ways in which the batting side wins the game. Since the answer can be too large, print it modulo 10^9 + 7.

Note

Do not confuse with actual rules of cricket like extra runs for no ball. Only the rules stated in the problem statement are valid.

Input

- The first line of the input contains an integer **T** denoting the number of test cases.
- The first line of each test case contains two space separated integers i.e **B** and **N** denoting the number of regular balls and free-hit balls respectively.

Output

- For each test case, print the number of ways in which he can win the game modulo 10^9 + 7