You are playing a card game with a friend. For this game only the suit of the cards matters. The four suits are clubs, diamonds, hearts and spades, with the following values:

<table>
<thead>
<tr>
<th>Suit</th>
<th>Symbol</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clubs</td>
<td>♣</td>
<td>1</td>
</tr>
<tr>
<td>Diamonds</td>
<td>♦</td>
<td>5</td>
</tr>
<tr>
<td>Hearts</td>
<td>♥</td>
<td>8</td>
</tr>
<tr>
<td>Spades</td>
<td>♠</td>
<td>14</td>
</tr>
</tbody>
</table>

Your friend selects a number $n$, and you must show cards whose total value equals $n$, by using the minimum possible number of cards. Assume that you have an unlimited number of cards of each suit.

Input
Input consists of several cases, each one with a natural number $n$ between 0 and 500000. Input ends with a $-1$.

Output
For every $n$, print the corresponding result.

Sample input
16 31 91

Sample output
2 4 8

Problem information
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