You attended Tanmai’s last dance party and realized that it took her a really long time to set the volume to the appropriate level. After you talked with her, you realized that she just randomly hit buttons until the music was playing at the proper level, so this process took up time that could have been better spent with everyone dancing!

You’ve decided that you are going to help Tanmai throw the next party without any delay so that her friends can party like it’s 2021, on Zoom!!!

To review, the volume on Tanmai’s computer ranges from \([0, v]\), for a given positive integer \(v\). When Tanmai presses the “UP” button, the volume increases by \(u\), a given positive integer. The exception is if doing so would exceed the maximum volume, \(v\). In this case, the volume gets set to \(v\). When Tanmai presses the “DOWN” button, the volume decreases by \(d\), a given positive integer. The exception is if doing so would set the volume below 0. In this case, the volume gets set to 0.

Write a program to help Tanmai determine the fewest button presses necessary to change the volume from its initial setting to a desired value. Also, you must make sure to identify any situations where it’s impossible to get the volume to the desired value.

**The Problem**
Given the volume level that Tanmai’s computer is currently at, as well as the desired final volume level, determine the fewest number of button presses necessary to change the volume to the desired final level. If it is not possible, detect this situation as well.

**The Input**
The first line of the input file will contain a single positive integer, \(c\) (\(c \leq 25\)), representing the number of input cases. The input cases follow. Each input case will contain five non-negative integers on a single line: \(v\) (\(10 \leq v \leq 10^6\)), the maximum volume level of the computer, \(w\) (\(0 \leq w \leq v\)), the current volume level of the computer, \(f\) (\(0 \leq f \leq v\)), the desired final volume level of the computer, \(u\) (\(1 \leq u \leq 10^6\)), representing how much the volume increases when the “UP” button is pressed and \(d\) (\(1 \leq d \leq 10^6\)), representing how much the volume decreases when the “DOWN” button is pressed.

**Partial Credit Input (60%)**
Here are the additional restrictions for the partial credit input cases:

- \(10 \leq v \leq 20\)
- \(1 \leq u \leq 20\)
- \(1 \leq d \leq 20\)
The Output
For each case, if it is possible to obtain the desired final volume level, on a line by itself, output the minimum number of button presses necessary to obtain the desired final volume level. If it not possible, then output -1 on a line by itself

<table>
<thead>
<tr>
<th>Sample Input</th>
<th>Sample Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>10 4 7 4 1</td>
<td>-1</td>
</tr>
<tr>
<td>20 12 10 8 4</td>
<td></td>
</tr>
</tbody>
</table>