In this challenge, you will be working log messages from multiple streams that have been merged together. Keep in mind that due to an issue in the original implementation, the order of log messages is randomized. The goal is to parse and process these logs to reconstruct meaningful information.

Assuming each log message is given in a new line, following the format:

```
pipeline_id id encoding [body] next_id
```

Where:
pipeline_id: The id of the pipeline that this message originates from.
id: The id of this message, unique within a pipeline.
encoding: An integer to show the encoding of the body. **0** is used for ASCII encoded body, eg “text”. **1** is used for body encoded in hexadecimal, e.g “74657874”.
body: the actual message.
next_id: The id of the next message for this pipeline. Value of **-1** is used to mark that no next message exists.

Create a program that can parse such input lines and prints per pipeline, its id and messages while respecting the id and next_id relationship, in reverse order. Consider the scenarios where log messages are ill formatted and the last message of a pipeline (denoted with the next_id == -1) is missing.

Example Input

```
2 3 1 [4F4B] -1
1 0 0 [some text] 1
1 1 0 [another text] 2
2 99 1 [4F4B] 3
1 2 1 [626F6479] -1
```

Expected Output

```
Pipeline 2
   3| OK
   99| OK
Pipeline 1
   2| body
   1| another text
   0| some text
```

Constraints:
Messages originating from the same pipeline have the same **pipeline_id**
The messages within a pipeline, identified by **id** are unique.

Actual log files:

```
legacy-hex 2 1 [4d6f726269206c6f626f72746973206d6178696d757320766976657272612e20416c697175616d2065742068656e647265726974206e756c6c61] -1
2 12 0 [nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.] -1
1 0 0 [Lorem ipsum dolor sit amet, consectetur adipiscing elit] -1
2 10 0 [Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea] 30
3 1 0 [sed do eiusmod tempor incididunt ut labore et dolore magna aliqua] -1
2 30 0 [commodo consequat. duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat] 12
legacy-hex 1 1
[566976616d75732072757472756d2069642065726174206e6563207665686963756c612e20446f6e6563206672696e67696c6c61206c6163696e696120656c656966656e
642e] 2
```

```
legacy-hex legacy-2 1 [4d6f726269206c6f626f72746973206d6178696d757320766976657272612e20416c697175616d2065742068656e647265726974206e756c6c61] -1
2 12 0 [nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.] -1
1 0 0 [Lorem ipsum dolor sit amet, consectetur adipiscing elit] -1
2 10 0 [Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea] 30
3 1 0 [sed do eiusmod tempor incididunt ut labore et dolore magna aliqua] -1
2 30 0 [commodo consequat. duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat] 12
legacy-hex legacy-1 1
[566976616d75732072757472756d2069642065726174206e6563207665686963756c612e20446f6e6563206672696e67696c6c61206c6163696e696120656c656966656e
642e] legacy-2
111 99 0 [......
```

```
legacy-hex 2 1 [4d6f726269206c6f626f72746973206d6178696d757320766976657272612e20416c697175616d2065742068656e647265726974206e756c6c61] -1
2 37620c47-da9b-4218-9c35-fdb5961d4239 0 [nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.] -1
```

```
1 0 0 [Lorem ipsum dolor sit amet, consectetur adipiscing elit] -1
2 04e28d3b-d945-4051-8eeb-6f049f391234 0 [Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea] 5352ab80-7b0a-421f-8ab4-
5c840ae882ee
3 1 0 [sed do eiusmod tempor incididunt ut labore et dolore magna aliqua] -1
2 5352ab80-7b0a-421f-8ab4-5c840ae882ee 0 [commodo consequat. duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat] 37620c47-da9b-
4218-9c35-fdb5961d4239
legacy-hex 1 1
[566976616d75732072757472756d20696420657261742e6563207665686963756c612e20446f6e6563206672696e67696c6c61206c6163696e696120656c656966656e
642e] 2
```