--- Day 5: Supply Stacks ---

The expedition can depart as soon as the final supplies have been unloaded
from the ships. Supplies are stored in stacks of marked crates, but because
the needed supplies are buried under many other crates, the crates need to
be rearranged.

The ship has a giant cargo crane capable of moving crates between stacks.
To ensure none of the crates get crushed or fall over, the crane operator
will rearrange them in a series of carefully-planned steps. After the
crates are rearranged, the desired crates will be at the top of each stack.

The Elves don't want to interrupt the crane operator during this delicate
procedure, but they forgot to ask her which crate will end up where, and
they want to be ready to unload them as soon as possible so they can
embark.

They do, however, have a drawing of the starting stacks of crates and the
rearrangement procedure (your puzzle input). For example:

```
    [D]
[N] [C]
[Z] [M] [P]
 1   2   3

move 1 from 2 to 1
move 3 from 1 to 3
move 2 from 2 to 1
move 1 from 1 to 2
```

In this example, there are three stacks of crates. Stack 1 contains two
crates: crate Z is on the bottom, and crate N is on top. Stack 2 contains
three crates; from bottom to top, they are crates M, C, and D. Finally,
stack 3 contains a single crate, P.

Then, the rearrangement procedure is given. In each step of the procedure,
a quantity of crates is moved from one stack to a different stack. In the
first step of the above rearrangement procedure, one crate is moved from
stack 2 to stack 1, resulting in this configuration:

```
[D]
[N] [C]
[Z] [M] [P]
 1   2   3
```

In the second step, three crates are moved from stack 1 to stack 3. Crates
are moved one at a time, so the first crate to be moved (D) ends up below
the second and third crates:

```
        [Z]
        [N]
    [C] [D]
    [M] [P]
 1   2   3
```

Then, both crates are moved from stack 2 to stack 1. Again, because crates
are moved one at a time, crate C ends up below crate M:

```
        [Z]
        [N]
[M]     [D]
[C]     [P]
 1   2   3
```

Finally, one crate is moved from stack 1 to stack 2:

```
        [Z]
        [N]
        [D]
[C] [M] [P]
 1   2   3
```

The Elves just need to know which crate will end up on top of each stack; in this example, the top crates are C in stack 1, M in stack 2, and Z in stack 3, so you should combine these together and give the Elves the message CMZ.

After the rearrangement procedure completes, what crate ends up on top of each stack?

To begin, get your puzzle input.

Answer: [_____] [Submit]

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