Write python programs to convert: 1. a3b2c4-aaabbcccc  2.aaabbcccc-a3b2c4

1. **Decode**: "a3b2c4" → "aaabbcccc"
2. **Encode**: "aaabbcccc" → "a3b2c4"

I'll wrote both clearly as Python programs:

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**1. Decode (a3b2c4 → aaabbcccc)**

```
# Decode function
s = input("Enter encoded string (e.g. a3b2c4): ")
output = ""
for ch in s:
  if ch.isalpha():       # if character is a letter
    var = ch
  else:                  # if character is a digit
    num = int(ch)
    output = output + (var * num)

print("Decoded string:", output)
```

✅ Example Run:

Input:  a3b2c4

Output: aaabbcccc

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**2. Encode (aaabbcccc → a3b2c4)**

```
# Encode function
string = input("Enter string to encode (e.g. aaabbcccc): ")
output = ""
visited = set()
```

```
for ch in string:
    if ch not in visited:  # process only first occurrence
        output += ch + str(string.count(ch))
        visited.add(ch)

print("Encoded string:", output)
```

✅ Example Run:

Input:  aaabbcccc

Output: a3b2c4