271. Encode and Decode Strings (Mdium)

Design an algorithm to encode a list of strings to a single string. The encoded string is then decoded back to the original list of strings.

Please implement `encode` **and** `decode`

Example 1:

> Input: ["neet","code","love","you"]
>
> Output:["neet","code","love","you"]

Example 2:

> Input: ["we","say",":","yes"]
>
> Output: ["we","say",":","yes"]

Constraints:

- `0 <= strs.length < 100`

- `0 <= strs[i].length < 200`

- `strs[i]` contains only UTF-8 characters.

思路：紀錄字串長度位數與字串長度數(由於長度限制於200內因此條件式少故採用此方法)

```cpp
class Solution {
public:

    string encode(vector<string>& strs) {
        string s;
        for(string &tmp : strs){
```

```cpp
            int num;
            if(tmp.size()<10) num = 1;
            else if(100>tmp.size() && tmp.size()>=10) num=2;
            else num=3;
            s+= to_string(num) + to_string(tmp.size()) + tmp;
        }
        return s;
    }

    vector<string> decode(string s) {
        vector<string> ans;
        int size = s.size(),i=0;
        while(i<size){
            int dnum = s[i++] - '0'; //num of digits
            int num = 0;        //num of slice
            while(dnum→0) num += (s[i++]-'0')*pow(10,dnum);
            ans.push_back(s.substr(i,num));
            i+=num;
        }
        return ans;
    }
};
```