

// <https://www.geeksforgeeks.org/generate-binary-strings-without-consecutive-1s/>

```
#include<bits/stdc++.h>
using namespace std ;

void generateAllStringsUtil(int K, char str[], int n, vector<string> &ans)
{
    if (n == K)
    {
        str[n] = '\0' ;
        ans.push_back(str);

        return ;
    }

    if (str[n-1] == '1')
    {
        str[n] = '0';
        generateAllStringsUtil (K , str , n+1, ans);
    }

    if (str[n-1] == '0')
    {
        str[n] = '0';
        generateAllStringsUtil(K, str, n+1, ans);
        str[n] = '1';
        generateAllStringsUtil(K, str, n+1, ans) ;
    }
}

void generateAllStrings(int K , vector<string> &ans)
{
    if (K <= 0)
        return ;

    char str[K];

    str[0] = '0' ;
    generateAllStringsUtil ( K , str , 1 , ans) ;

    str[0] = '1' ;
    generateAllStringsUtil ( K , str , 1 , ans);
}

int main()
{
    int K = 9;
    vector<string> ans;
    generateAllStrings (K, ans) ;

    string s = ans[K];
    int i = 0;
    while (s[i] == '0') {
        i++;
    }
    s.erase(0, i);

    cout << s << endl;
    return 0;
}
```