

406410114 UVA948 Fibonaccimal Base

```
//n
// 1 2 3 4 5 6 7 8 9 10
// 1 1 2 3 5 8 13 21 34 55
```

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

```
vector<int> dec_to_fib_result;  
void dec_to_fib( vector<int> fib_base,int num ){  
    dec_to_fib_result.clear();  
    int i,j,k;  
    for ( i = fib_base.size();i>=0;i-- ){  
        if ( num == 0 )  
            dec_to_fib_result.push_back(0);  
        else if ( num % fib_base[i] == num )  
            dec_to_fib_result.push_back(0);  
        else {  
            dec_to_fib_result.push_back( num / fib_base[i] );  
            num %= fib_base[i];  
        }  
    }  
}  
}
```

```
int main(){
    int i,j,k,n,num,f0 = 0,f1 =1;
    vector <int> fib_base;

    int sum = f0 +f1;
    fib_base.push_back( sum );
    while ( sum <=1000000000 ){
        fib_base.push_back( sum );
        f0 = f1;
        f1 = sum;
        sum = f0 +f1;
    }//while

    /*
    for ( i = 0;i<fib_base.size();i++ )
        cout<< fib_base[i] << " ";
    cout <<endl;

    cout << fib_base.size();
    */

    cin >>n;
    while ( n-- ){
        cin >>num;
        cout << num<< " = " ;
        dec_to_fib( fib_base, num );
        bool start = false;
        for ( i = 0; i<dec_to_fib_result.size()-1;i++ ){
            if (dec_to_fib_result[i] != 0 )
                start = true;

            if ( start ==true )
                cout << dec_to_fib_result[i];

        }//for
    }
```

```
        cout << " (fib)\n";

    }//while

    return 0;
} //main
```