```cpp
//  string multiplication by Shadman

#include <iostream>
#include <string>
#include <sstream>
#include <cstdio>
#define OVERFLOW 2
#define ROW b_len
#define COL a_len+b_len+OVERFLOW

using namespace std;

int getCarry(int num) {
    int carry = 0;
    if(num>=10) {
        while(num!=0) {
            carry = num %10;
            num = num/10;
        }
    }
    else carry = 0;
    return carry;
}

int num(char a) {
    return int(a)-48;
}

string mult(string a, string b) {
        string ret;
        int a_len = a.length();
        int b_len = b.length();
        int mat[ROW][COL];
        for(int i =0; i<ROW; ++i) {
            for(int j=0; j<COL; ++j) {
                mat[i][j] = 0;

            }
        }

        int carry=0, n,x=a_len-1,y=b_len-1;
        for(int i=0; i<ROW; ++i) {
            x=a_len-1;
            carry = 0;
            for(int j=(COL-1)-i; j>=0; --j) {
                if((x>=0)&&(y>=0))  {
                    n = (num(a[x])*num(b[y]))+carry;
                    mat[i][j] = n%10;
                    carry = getCarry(n);
                }
                else if((x>=-1)&&(y>=-1)) mat[i][j] = carry;
                x=x-1;
            }
            y=y-1;
        }

        carry = 0;
        int sum_arr[COL];
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        for(int i =0; i<COL; ++i) sum_arr[i] = 0;
        for(int i=0; i<ROW; ++i) {
            for(int j=COL-1; j>=0; --j) {
                sum_arr[j] += (mat[i][j]);
            }
        }
        int temp;
        for(int i=COL-1; i>=0; --i) {
            sum_arr[i] += carry;
            temp = sum_arr[i];
            sum_arr[i] = sum_arr[i]%10;
            carry = getCarry(temp);
        }

        for(int i=0; i<COL; ++i) {
            ret.push_back(char(sum_arr[i]+48));
        }

        while(ret[0]=='0'){
            ret = ret.substr(1,ret.length()-1);
        }
        return ret;
}

void printhuge(string a) {

    for(string::iterator i = a.begin(); i!=a.end(); ++i) {
        cout<<*i;
    }
}
string intToStr(unsigned long long int num) {
//takes an int and returns a string
stringstream ss;
ss << num;
return ss.str();
}

int main() {
    unsigned long long int p,q,r,s,T,i,j;

    string a,b,c,d;

    cin>>T;
    for(i=1;i<=T;i++)
    {


    scanf("%llu",&p);
    if(p==0)
    {
        printf("Case %llu: 0\n",i);
        continue;
    }
    else if(p==1)
    {
        printf("Case %llu: 0\n",i);
        continue;
    }
```

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    if(p%2==0)
    {
        r=p/2;
        s=p-1;
    }
    else
    {
        r=(p-1)/2;
        s=p;
    }
    a=intToStr(r);

    b=intToStr(s);

    printf("Case %llu: ",i);

    printhuge(mult(a,b));
    printf("\n");
    }
    return 0;
}
```