1. **Problem name:** Hashmat the Brave Warrior -10055

C Solution:

```
#include<stdio.h>
int main() {
        long long a, b;
        while(scanf("%lld %lld", &a, &b) == 2) {
                if(a > b)       printf("%lld\n", a-b);
                else            printf("%lld\n", b-a);
        }
   return 0;
}
```

2. Problem name: Back to High School Physics -10071

C Solution:

```
#include<stdio.h>
int main() {
	long long v, t;
	while(scanf("%lld %lld", &v, &t) == 2)
		printf("%lld\n", 2*v*t);
   return 0;
}
```

3. Problem name: Pizza Cutting -10079

C Solution:

```
#include<stdio.h>
int main() {
	long long int k;
	while(scanf("%lld", &k) == 1 && k >= 0) {
		printf("%lld\n", k*(k+1)/2+1);
	}
   return 0;
}
```

4. Problem name: The Land Of Justice - 10499

C Solution:

```
#include<stdio.h>
using namespace std;

int main(){
    long int n,r;
    while(scanf("%ld",&n)==1){
       if(n<0) break;
       if(n==1) r=0;
       else r=n*25;
       printf("%ld%%\n",r);
       }
    return 0;
    }
```

5. Problem name: Big Chocolate-10970

C Solution:

```
#include<iostream>
using namespace std;

int main(){
	long m,n;
	while(cin>>m>>n){
	cout<<(m*n)-1<<endl;
	}
	return 0;
	}
```

6. Problem name: Relational Operator -11172

C Solution:

```
#include<stdio.h>
int main() {
        int T, x, y;
        scanf("%d", &T);
        while(T--) {
            scanf("%d %d", &x, &y);
            if(x < y)                puts("<");
            else if(x > y) puts(">");
            else       puts("=");
        }
    return 0;
}
```

7. Problem name: Horror Dash-11799

C Solution:

```
#include <stdio.h>

int main() {
        int t, n, Case = 0;
        scanf("%d", &t);
        while(t--) {
            scanf("%d", &n);
            int max = 0, c;
            while(n--) {
                    scanf("%d", &c);
                    if(max < c)
                            max = c;
            }
            printf("Case %d: %d\n", ++Case, max);
        }
    return 0;
}
```

8. Problem name: Bafana Bafana -11805

C Solution:

```
#include <stdio.h>

int main() {
    int t, test = 0, N, K, P;
    scanf("%d", &t);
    while(t--) {
        scanf("%d %d %d", &N, &K, &P);
        printf("Case %d: %d\n", ++test, (K+P-1)%N+1);
    }
    return 0;
}
```

9. Problem name: Peter's Smoke - 10346

C Solution:

```
#include <stdio.h>
int main() {
        int n, k;
        while(scanf("%d %d", &n, &k) == 2) {
            int sum = n, used = n;
            while(used >= k) {
                    n = used/k;
                    used = used%k + n;
                    sum += n;
            }
            printf("%d\n", sum);
        }
```

10. Problem name: F91 -10696

C Solution:

```
#include<stdio.h>
int main() {
        int n;
        while(scanf("%d", &n) == 1 && n) {
         printf("f91(%d) = %d\n", n, n > 100 ? n-10 : 91);
        }
    return 0;
}
```

11. **Problem name:** Odd Sum -10783

C Solution:

```
#include<stdio.h>
int main() {
	int T, Case = 0;
	scanf("%d", &T);
	while(T--) {
		int i, sum = 0, a, b;
		scanf("%d %d", &a, &b);
		if((a&1) == 0) a++;
		for(i = a; i <= b; i += 2)
			sum += i;
		printf("Case %d: %d\n", ++Case, sum);
	}
	return 0;
}
```

12. **Problem name:** Beat the Spread -10812

C Solution:

```
#include <stdio.h>

int main() {
	int n, s, d, a, b;
	scanf("%d", &n);
	while(n--) {
		scanf("%d %d", &s, &d);
		a = (s+d);
		b = (s-d);
		if(a < 0 || b < 0 || a%2 == 1 || b%2 == 1)
			puts("impossible");
		else
			printf("%d %d\n", a/2, b/2);
	}
	return 0;
}
```

13. Problem name: You can Say 11-10929

C Solution:

```
#include <stdio.h>
#include <string.h>
int main() {
	char s[1001];
	while(scanf("%s", s) == 1) {
		if(strcmp(s, "0") == 0)
			break;
		int i, l = strlen(s), sum = 0;
		for(i = l-1; i >= 0; i -= 2)
			sum += s[i] - '0';
		for(i = l-2; i >= 0; i -= 2)
			sum -= s[i] - '0';
		printf("%s ", s);
		if(sum%11 == 0)
			puts("is a multiple of 11.");
		else
			puts("is not a multiple of 11.");
	}
	return 0;
}
```

14. **Problem Name** : How old Are You

C Solution:

```
#include <stdio.h>
int main() {
    int t, test = 0;
    scanf("%d", &t);
    while(t--) {
        int age, a, b, c, e, f, g;
        scanf("%d/%d/%d", &a, &b, &c);
        scanf("%d/%d/%d", &e, &f, &g);
        age = c-g;
        if(f > b)   age--;
        if(f == b && e > a)   age--;
        printf("Case #%d: ", ++test);
        if(age < 0)
            puts("Invalid birth date");
        else if(age > 130)
            puts("Check birth date");
        else
            printf("%d\n", age);
    }
    return 0;
}
```

15. **Problem name :** Is this the Easiest Problem

C Solution:

```
#include<stdio.h>
#define swap(x,y) {long long t=x; x=y; y=t;}
int main() {
    int T, C = 0;
    scanf("%d", &T);
    while(T--) {
        long long n[3];
        scanf("%lld %lld %lld", &n[0], &n[1], &n[2]);
        if(n[0] > n[2]) swap(n[0], n[2]);
        if(n[1] > n[2]) swap(n[1], n[2]);
        if(n[0] > n[1]) swap(n[0], n[1]);
        printf("Case %d: ",++C);
        if(n[0] + n[1] <= n[2]) puts("Invalid");
        else if(n[0] == n[2] && n[1] == n[2])
puts("Equilateral");
        else if(n[0] == n[1] || n[1] == n[2]) puts("Isosceles");
        else puts("Scalene");
    }
    return 0;
}
```

16. **Problem name :** Cost Cutting

C Solution:

```
#include <stdio.h>
int main() {
    int t, tmp, a, b, c;
    int Case = 0;
    scanf("%d", &t);
    while(t--) {
        scanf("%d %d %d", &a, &b, &c);
        if(a > c)
            tmp = a, a = c, c = tmp;
        if(b > c)
            tmp = b, b = c, c = tmp;
        if(a > b)
            tmp = a, a = b, b = tmp;
        printf("Case %d: %d\n", ++Case, b);
    }
    return 0;
}
```

17. **Problem name :** A Benevolent Josephus

C Solution:

```
#include <bits/stdc++.h>
using namespace std;
int main() {
	const int MAXN = 65536;
	int J[MAXN] = {}, D[MAXN] = {};
	for (int i = 2; i < MAXN; i++)
		J[i] = (J[i-1]+2)%i;
	for (int i = 1; i < MAXN; i++) {
		J[i] = J[i]+1;
		if (J[i] == i)
			D[i] = 2*i;
		else
			D[i] = i-J[i] + D[J[i]];
	}
	int n;
	while (scanf("%d", &n) == 1) {
		int ret = D[n];
		printf("%d\n", ret);
	}
	return 0;
}
```

18. **Problem name :** Egypt

C Solution:

```
#include<stdio.h>
#define Swap(x, y) {int t; t = x, x = y, y = t;}
int main() {
	int x, y, z;
	while(scanf("%d %d %d", &x, &y, &z) == 3) {
		if(x == 0 && y == 0 && z == 0)
			break;
		if(x > z) Swap(x, z);
		if(y > z) Swap(y, z);
		puts(x*x + y*y == z*z ? "right" : "wrong");
	}
   return 0;
}
```

19.**Problem name :** Brick Game

C Solution:

```
#include <iostream>
#include <algorithm>
using namespace std;
int main() {
    int t, n, cases = 0;
    cin >> t;
    while(t--) {
        cin >> n;
        int a[30];
        for(int i = 0; i < n; i++)
            cin >> a[i];
        sort(a, a+n);
        cases++;
        cout << "Case " << cases << ": "<< a[n/2] << endl;
    }
    return 0;
}
```

20. **Problem name :** Multiple of 17

C Solution:

```
#include <stdio.h>

int main() {
    char str[102];
    while(gets(str)) {
        if(str[0] == '0' && str[1] == '\0')
            break;
        int tmp = 0, i;
        for(i = 0; str[i]; i++) {
            tmp = tmp*10 + str[i]-'0';
            tmp %= 17;
        }
        printf("%d\n", tmp == 0);
    }
    return 0;
}
```

21. **Problem name :** A change in thermal unit

C Solution:

```
#include<stdio.h>
int main() {
	int T, test = 0, C, d;
	scanf("%d", &T);
	while(T--) {
		scanf("%d %d", &C, &d);
		printf("Case %d: %.2lf\n", ++test,
(double)C+d*5/9.0);
	}
```

22. **Problem name :** Packing For Holiday

C Solution:

```
#include<stdio.h>
int main() {
	int T, L, W, H, C = 0;
	scanf("%d", &T);
	while(T--) {
		scanf("%d %d %d", &L, &W, &H);
		printf("Case %d: ", ++C);
		if(L > 20 || W > 20 || H > 20)
			puts("bad");
		else
			puts("good");
	}
   return 0;
}
```

23.**Problem name :** Zapping

C Solution:

```
#include <stdio.h>
#include <stdlib.h>
#define min(x, y) ((x)<(y)?(x):(y))
int main() {
    int a, b;
    while(scanf("%d %d", &a, &b) == 2) {
        if(a < 0)   break;
        printf("%d\n", min(abs(a-b), min(100-a+b,
100-b+a)));
    }
    return 0;
}
```

24.**Problem name :** Hardest Problem Ever

C Solution:

```
#include <stdio.h>

int main() {
    puts("KABIR\n");
    return 0;
}
```

25. **Problem name :** Hazi-e-Akbar

C Solution:

```
#include <iostream>
using namespace std;

int main() {
    string s;
    int cases = 0;
    while(cin >> s) {
        if(s == "*")    break;
        cout << "Case " << ++cases << ": ";
        if(s == "Hajj")
            cout << "Hajj-e-Akbar" << endl;
        else
            cout << "Hajj-e-Asghar" << endl;
    }
    return 0;
}
```

26.**Problem name :** Zero Or One

C Solution:

```
#include<stdio.h>
int main(){
    int A, B, C;
    while( scanf("%d%d%d", &A, &B, &C) == 3 ){

        if( !( A ^ B ) && !( A ^ C ) )
            putchar('*');
        else{
            if( A ^ B ){
                if( B ^ C )
                    putchar('B');
                else
                    putchar('A');
            }
            else
                putchar('C');
        }
        putchar('\n');
    }
    return 0;
}
```

27.**Problem name :** Little Master

C Solution:

```
#include <stdio.h>
#include <math.h>

int main() {
	scanf("%*d");
	double x, y, r;
	while(scanf("%lf %lf %lf", &x, &y, &r) == 3) {
		printf("%.2lf %.2lf\n", r - hypot(x, y), r +
hypot(x, y));
	}
	return 0;
}
```

28. **Problem name :** GCD the largest

C Solution:

```
#include <stdio.h>

int main() {
	scanf("%*d");
	for(long long n; scanf("%lld", &n) == 1;)
		printf("%lld\n", n / 2);
	return 0;
}
```

29. **Problem name :** Ugly Number

C Solution:

```
#include<stdio.h>
int main() {
	int DP[1500] = {1}, t2 = 0, t3 = 0, t5 = 0, tmp, i;
	for(i = 1; i < 1500; i++) {
		while(DP[t2]*2 <= DP[i-1])	t2++;
		while(DP[t3]*3 <= DP[i-1])	t3++;
		while(DP[t5]*5 <= DP[i-1])	t5++;
		tmp = DP[t2]*2;
		if(DP[t3]*3 < tmp)	tmp = DP[t3]*3;
		if(DP[t5]*5 < tmp)	tmp = DP[t5]*5;
		DP[i] = tmp;
	}
	printf("The 1500'th ugly number is %d.\n",
DP[1499]);
   return 0;
}
```

30. **Problem name :** Counting weekend days

C Solution:

```
#include <bits/stdc++.h>
using namespace std;
string day_str[7] = {
	"SUN", "MON", "TUE", "WED", "THU", "FRI", "SAT"
};
string mon_str[12] = {
	"JAN", "FEB", "MAR", "APR", "MAY", "JUN", "JUL",
	"AUG", "SEP", "OCT", "NOV", "DEC"
};
int days[12] = {31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31};
int main() {
	int testcase;
	scanf("%d", &testcase);
	while (testcase--) {
		char s1[16], s2[16];
		scanf("%s %s", s1, s2);
		int a = find(day_str, day_str+7, s2) - day_str;
		int b = find(mon_str, mon_str+12, s1) - mon_str;
		int ret = 0;
		for (int i = 0; i < days[b]; i++) {
			if ((a + i)%7 == 5 || (a + i)%7 == 6)
				ret++;
		}
		printf("%d\n", ret);
	}
	return 0;
}
```

31. **Problem name :** Train Swapping

C Solution:

```
#include<stdio.h>
int main() {
	int N, L, A[50];
	scanf("%d", &N);
	while(N--) {
		scanf("%d", &L);
		int i, j, count = 0, tmp;
		for(i = 0; i < L; i++)
			scanf("%d", &A[i]);
		for(i = 0; i < L; i++) {
			for(j = L-1; j > i; j--) {
				if(A[j] < A[j-1]) {
					tmp = A[j];
					A[j] = A[j-1];
					A[j-1] = tmp;
					count++;
				}
			}
		}
		printf("Optimal train swapping takes %d swaps.\n", count);
	}
   return 0;
}
```

32. **Problem name :** The Collatz Sequence

C Solution:

```
#include <stdio.h>
#include <stdlib.h>
int main() {
	long long A, L, TA;
	int Case = 0;
	while(scanf("%lld %lld", &A, &L) == 2) {
		if(A < 0 && L < 0)
			break;
		int r = 1;
		TA = A;
		while(A != 1) {
			if(A&1)
				A = A*3+1;
			else
				A = A/2;
			if(A > L)
				break;
			r++;
		}
		printf("Case %d: A = %lld, limit = %lld, number of terms = %d\n",
++Case, TA, L, r);
	}
   return 0;
}
```

33. **Problem name :** Ecological bin Packing

C Solution:

```
#include<stdio.h>
#define swap(x, y) {int t; t = x, x = y, y = t;}
int main() {
	char s[4] = "BCG";
	int W[6][3] = {{0,1,2},{0,2,1},{1,0,2},{1,2,0},{2,0,1},{2,1,0}};
	int B[3][3], i, j, k;
	while(scanf("%d", &B[0][0]) == 1) {
		for(i = 0; i < 3; i++) {
			for(j = 0; j < 3; j++) {
				if(i+j == 0)	continue;
				scanf("%d", &B[i][j]);
			}
			swap(B[i][1], B[i][2]);
		}
		unsigned Min = 0xffffffff, idx;
		for(i = 0; i < 6; i++) {
			int tmp = 0;
			for(j = 0; j < 3; j++) {
				for(k = 0; k < 3; k++)
					if(W[i][j] != k)
						tmp += B[j][k];
			}
			if(tmp < Min)		idx = i, Min = tmp;
		}
		printf("%c%c%c %u\n", s[W[idx][0]], s[W[idx][1]], s[W[idx][2]], Min);
	}
	return 0;
}
```