Q1) https://www.codechef.com/problems/WATSCORE

Program code :-

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

int main() {
        int t;   cin
>> t;   while(t--){
   int n;
cin >> n;        int
a[n];     int b[n];
   int sum=0;
        for(int i=0; i<n; i++){
    cin >> a[i] >> b[i];
        }

   for(int i=1; i<9; i++){           int
max=0;        for(int j=0; j<n; j++){
if(i==a[j]        &&        b[j]>max){
max=b[j];
```

```
            }             }
    sum = sum+max;

        }


        cout << sum << endl;

    }

    return 0;

}
```

Output :-

Q2) https://www.codechef.com/problems/TEMPLELA

Program code :-

```cpp
#include <iostream> using

namespace std;


int main() {

        int s;    cin

>> s;    while (s--)
```

```cpp
{           int n;
   cin >> n;
int a[n];
           for (int i = 0; i < n; i++) {
      cin >> a[i];
         }
         if (n % 2 == 0) {
cout << "no" << endl;
continue;
         }
         bool flag = 1;
   int mid = (n - 1) / 2;
   int i;
         for (i = 0; i < mid;
i++) {        if (a[i] != i + 1) {
       flag = 0;
             }
         }
       if (a[mid] != i + 1) {
          flag = 0;
       }
         for (int i = mid + 1; i < n;
i++) {        if (a[i] != n - i) {
flag = 0;
            }
         }
         cout << (flag == 1 ? "yes" : "no") << endl;
      }
      return 0;
```

}

Output :-

Q3) https://www.codechef.com/problems/AND

Program code :-

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

int main() {    long sum[30] =
{};    int N,a;    long ans = 0;
cin>>N;    for(int i=0; i<N;
i++){      cin>>a;        ans-
=a;      for(int j=0; a; a=a>>1,
j++){          if(a&1)
sum[j]++;
```

```
    }
  }
  for(int j=0; j<30; j++){
ans+=(sum[j]*sum[j])<<j;
  }
  cout<<ans/2<<endl;
    return 0;
}
```

Output :-

Sub-Task	Task #	(time)
1	0	AC (0.003750)
1	1	AC (0.003850)
Subtask Score: 13.00%		Result - AC
2	2	AC (0.004156)
2	3	AC (0.004175)
Subtask Score: 39.00%		Result - AC
3	4	AC (0.014273)
Subtask Score: 21.00%		Result - AC
4	5	AC (0.032211)
4	6	AC (0.032063)
Subtask Score: 27.00%		Result - AC

Q4) https://www.codechef.com/problems/CROADS

Program code :-

```cpp
#include <bits/stdc++.h>

using namespace std;

void solve()

{    int n;    cin >> n;

if ((n & (n - 1)) == 0)

    {


        cout << -1 << endl;
        return;

    }

    long long ans = 0;    for (int

i = 1; i <= n; i <<= 1)        ans

+= ((n - i) / (i << 1)) * i;    for

(int i = 2; i < n; i <<= 1)

ans += i;    cout << ans <<

endl;

}

int main()

{

    ios_base::sync_with_stdio(false);

cin.tie(NULL);

    int t;

cin >> t;

while (t--)

    {

solve();

    }
```

```
    return 0;

}
```

Output :-

Program code :-

```cpp
#include <bits/stdc++.h>

using namespace std;


int n, k, p, a[200001], sum[200001], maxi[524288];

string s;


void build(int node, int l, int r) {

    if (l == r) {

        maxi[node] = sum[l];

return;
```

```cpp
    }
    int p1 = 2 * node + 1, p2 = 2 * node + 2, c = (l + r) /
2;    build(p1, l, c);    build(p2, c + 1, r);
    maxi[node] = max(maxi[p1], maxi[p2]);
}


int query(int node, int l, int r, int i, int j) {    if (l == i && r
== j)       return maxi[node];    int p1 = 2 * node + 1, p2 =
2 * node + 2, c = (l + r) / 2;    if (j <= c) return query(p1, l,
c, i, j);    if (i > c) return query(p2, c + 1, r, i, j);    return
max(query(p1, l, c, i, c), query(p2, c + 1, r, c + 1, j));
}


int main() {    ios::sync_with_stdio(0);
cin.tie(0); cout.tie(0);
    //freopen("test01.in", "r", stdin);
//freopen("test01.out", "w", stdout);
cin >> n >> k >> p;    k = min(k, n);
for (int i = 1; i <= n; i++) {       cin >>
a[i];      a[n + i] = a[i];
    }
    cin >> s;    sum[0] = 0;    for (int i
= 1; i <= k; i++)       sum[i] = sum[i
- 1] + a[i];    for (int i = k + 1; i <= 2
* n; i++)       sum[i] = sum[i - 1] +
a[i] - a[i - k];    build(0, 1, 2 * n);
for (int i = 0, pos = 1; i < s.size();
i++) {       if (s[i] == '?')          cout
<< query(0, 1, 2 * n, pos + k - 1, pos
+ n - 1) << "\n";
```

```
        else {
pos--;            if
(pos < 1)
pos = n;
        }
    }
    return 0;
}
```

Output :-