

### Aggressive Cows Code:

```
#include <iostream>
#include <algorithm>
using namespace std;
int N, C;
long long A[100000];
// check if a distance of x is possible between each cow
bool chk(int x)
{
    // greedy approach, put each cow in the first place
    int cows_placed = 1, last_pos = A[0];
    for (int i = 1; i < N; i++)
    {
        if ((A[i] - last_pos) >= x)
        {
            if (++cows_placed == C)
                return true;
            last_pos = A[i];
        }
    }
```

```
}  
return false;  
}
```

```
void solve()
```

```
{  
    cin >> N >> C;  
    for (int i = 0; i < N; i++)  
        cin >> A[i];  
    // sort our array  
    sort(A, A + N);
```

```
    // binary search
```

```
    long long low = 0, high = 1000000000, mid, pos = 0;
```

```
    while (high >= low)
```

```
{
```

```
    mid = (high + low) / 2;
```

```
    if (chk(mid))
```

```
{
```

```
        low = mid + 1;
        pos = mid;
    }
    else
    {
        high = mid - 1;
    }
}
cout << pos << endl;
}
```

```
int main()
{
    int T;
    cin >> T;
    while (T--)
        solve();
    return 0;
}
```

Time Complexity:

Time complexity of Binary Search Tree is  $O(n \log n)$ .