# TEAM PROGRAMMING CONTEST SOLUTIONS

Editorial for the TPC 1.0 and TPC 2.0 which were conducted in the last semester has been provided here.Kindly go through the approach and do submit the solutions again.

## TPC 1.0 SOLUTIONS

Contest link:https://www.hackerrank.com/contests/team-programming-contest/challenges

1.CRAZY JERRY!

```
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;


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

2.FAVOURITE NUMBER OF SHARA!!

```
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;


int main() {
    int n,cnt=0,ans=0;
    cin>>n;
    int a[n];
    for(int i=0;i<n;i++)
    {
        cin>>a[i];
        if(a[i]==10)
            cnt=0;
        else
        {
            cnt++;
        }
        if(cnt>ans)
            ans=cnt;
    }
    cout<<ans;

    return 0;
}
```

3.SHIFTED CROSS

```
#include <iostream>

using namespace std;
```

```
int main(){
    int n;
    cin >> n;
    for(int i=1;i<=n;i++){
        for(int j=1;j<=n;j++){
            cout << min( abs(i-n/2), abs(j-n/2) ) << " ";
        }
        cout << "\n";
    }

    return 0;
}
```

4.TOM  AND  JERRY

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


int main() {
    int n ,q;
    cin >> n >> q;
    int arr[n+1];
    int xorr =0;
    int ele=0;
    for (int i =1;i <=n;i++){
        cin >> ele;
        xorr = xorr ^ele;
        arr[i]=xorr;
    }
    int a,b,ans;
    for(int i =1; i <=q;i++){
        cin >> a >> b;
        if (a==1){
```

```
            ans = (arr[b]);
        }
        else {
            ans = (arr[b]^arr[a-1]);
        }

        cout << ans << " ";
    }
    cout << endl;



    return 0;
}
```

5.REETU RAJ’S CURIOSITY!!

```
#include <bits/stdc++.h>
using namespace std;
#define mod 1000000007

void solve() {
    string s;
    cin>>s;
    long long n = s.size();
    vector<long long> dp(n+1); //dp is nothing but the array of size n+1
    dp[0] = 1;
    dp[1] = 1;
    if(s[0] == '0') {
        cout<<0<<endl;
        return;
    }

    for(int i=2 ; i<=n ; i++) {
        dp[i] = 0;
        if(s[i-1] != '0') {
```

```
            dp[i] = dp[i-1];
        }
        if((s[i-2] == '2' && s[i-1] < '7') || (s[i-2] == '1')) {
            dp[i] += dp[i-2]%mod;
        }

    }
    cout<<dp[n]%mod<<endl;
}


int main() {

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

**2.TPC 2.0 SOLUTIONS**

Contest link:https://www.hackerrank.com/contests/tpc-2-0-sem-3/challenges

1.CHECKING ADDITION

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

int main() {
```

```
    int t;
    scanf("%d",&t);
    while(t--)
    {
    int a,b,c;
    scanf("%d%d%d",&a,&b,&c);
    if(a+b==c || b+c==a || c+a==b)
        printf("YES\n");
    else
        printf("NO\n");
    }
    return 0;
}
```

2.EVENFULL NUMBERS

```
#include <stdio.h
#define MAXS 10

int main(){
    int n;
    scanf("%d", &n);
    int digs[MAXS], i = 0;
    while(n != 0){
        int dig = n%10;
        if(dig%2 == 0) digs[i++] = dig;
        n /= 10;
    }

    if(i == 0) printf("0\n");
    else{
        while(i--){
            printf("%d", digs[i]);
        }
        printf("\n");
```

```
    }
    return 0;
}
```

3.ARJUNA AND KARNA

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

int main() {
    int t;
    scanf("%d",&t);
    while(t--)
    {
        int n;
        scanf("%d",&n);
        if(n%4==0)
            printf("Arjuna\n");
        else
            printf("Karna\n");
    }
    return 0;
}
```

4.BEGINNING AND THE END

```
#include <stdio.h>
#define MAXN 100001

int main(){
  int n, b,ans=0;
  int a[MAXN], pre[MAXN];
  scanf("%d %d", &n, &b);
```

```
  if(n >= 1 && n <= 100000);
  if(b >= 1 && b <= 100000);
  if(b <= n);
  for(int i=0;i<n;i++){
    scanf("%d", a+i);
    if(a[i] >= 1 && a[i] <= 1000);
    pre[i] = a[i];
    if(i) pre[i] += pre[i-1];
  }


  for(int l=0;l<=b;l++){
    int r = b-l;

    int lsum = (l>0 ? pre[l-1] : 0);
    int rsum = (r<n ? pre[n-1]-pre[n-1-r] : pre[n-1]);

    if(lsum+rsum > ans)
      ans = lsum+rsum;
  }
  printf("%d\n", ans);
  return 0;
}
```

5.BHEEM AND  THE MAJESTIC PROBLEM

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

void swap(int* xp, int* yp){
    int temp = *xp;
    *xp = *yp;
    *yp = temp;
```

```
}
void sort(int arr[], int n){
    int i, j, min_idx;
    for (i = 0; i < n - 1; i++) {
        min_idx = i;
        for (j = i + 1; j < n; j++)
            if (arr[j] > arr[min_idx])
                min_idx = j;
        swap(&arr[min_idx], &arr[i]);
    }
}
void rev_sort(int arr[], int n){
    int i, j, min_idx;
    for (i = 0; i < n - 1; i++) {
        min_idx = i;
        for (j = i + 1; j < n; j++)
            if (arr[j] < arr[min_idx])
                min_idx = j;
        swap(&arr[min_idx], &arr[i]);
    }
}

int main(){
  int n;
  int k=0,j=0;
  int arr[10000];
  scanf("%d",&n);
  int pos[10000],neg[10000];
  for(int i=0;i<n;i++)scanf("%d",&arr[i]);
  for(int i=0;i<n;i++){
    if(arr[i] >= 0)pos[k++]=arr[i];
    else neg[j++] = arr[i];
  }
  rev_sort(neg,j);
  sort(pos,k);
```

```
  long long int ans = 0;
  for(int i=0;i<k-1;i+=2)ans+=pos[i]*pos[i+1];
  for(int i=0;i<j-1;i+=2)ans+=neg[i]*neg[i+1];

  if(k % 2 == 1 && j % 2 == 1)ans += pos[k-1]*neg[j-1];
  else if(k % 2)ans += pos[k-1];
  else if(j % 2)ans += neg[j-1];
  printf("%lld\n",ans);
  return 0;
}
```