Bismillahhir Rahmanir Rahim

আন্তর্জাতিক ইসলামী বিশ্ববিদ্যালয় চট্টগ্রাম

الجامعة الإسلامية العالمية شيتاغونغ

International Islamic University Chittagong

Assignment

Course Title-Computer Programming 1 lab

Course Code: CSE- 1121

Assignment No. – 02

(Official & for FINAL TERM)

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Submited to-

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Submitted by-

MD. SOROWAR MAHABUB RABBY

Matric ID: C201032, Section: A

Department of CSE (Computer Science and Engineering)

Solve the following problems from sheet#3

I Smallest Pair
J Lucky Array
K Sum Digits (You may need to take input using "%1d")
M Replace MinMax
O Fibonacci (Use array to generate all the fibonacci numbers first)

S Search In Matrix
T Matrix
W Mirror Array

By sorowarmahabub1709vip, contest: Sheet #3 (Arrays), problem: (I) Smallest Pair, **Accepted**,

```c
#include<stdio.h>
int main()
{
    int i,t,n,j,k;
    scanf("%d", &t);
    for(k=1;k<=t;k++)
    {
        scanf("%d",&n);
        long long int a[n],min,sum;

        for(i=0;i<n;i++)
        {
            scanf("%lld", &a[i]);
        }
        min=a[0]+a[1]+1;
        for(i=0;i<n-1;i++)
        {
            //sum=0;
            for(j=i+1;j<n;j++)
            {
                sum=a[i]+a[j]+j-i;

                if(sum<=min)
                {
                    min=sum;
                }
                //printf("%d\n", sum);
            }

        }
        printf("%lld\n", min);
    }
    return 0;

}
```

By sorowarmahabub1709vip, contest: Sheet #3 (Arrays), problem: (J) Lucky Array, **Accepted**, #,

```c
#include<stdio.h>

int main()
{
    long long int n, count= 0;
    scanf("%lld", &n);
    long long int ar[n+10];
    for(long long int x= 0; x<n; x++)
        scanf("%lld", &ar[x]);

    long long int min= ar[0];
    for(long long int y= 1; y<n; y++) {
        if(ar[y] < min)
            min= ar[y];
    }

    for(int z= 0; z<n; z++) {
        if(min == ar[z])
            count++;
    }

    if(count%2==1)
    printf("Lucky\n");
    else
    printf("Unlucky\n");
    return 0;
}

// J (updated) No of sheet 3
```

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By sorowarmahabub1709vip, contest: Sheet #3 (Arrays), problem: (K) Sum Digits, Accepted,

```c
#include<stdio.h>
int main() {
    long long int size, m, sum= 0;
    scanf("%lld", & size);
    long long int num[size];

    for(m=0; m<size; m++)
    scanf("%lld", &num[m]);

    for(m=0; m<size; m++)
    sum= sum+num[m];
    printf("%lld\n", sum);
    return 0;
}
```

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By sorowarmahabub1709vip, contest: Sheet #3 (Arrays), problem: (M) Replace MinMax, **Accepted**,

```c
#include<stdio.h>
int main()
{
    int i, j, min, max, n, c_max, c_min;
    scanf("%d", &n);
    int a[n];
    for(i=0; i<n; i++)
        scanf("%d", &a[i]);
    min= a[0];
    max= a[0];
    for(i=0; i<n; i++) {
        if(a[i] <= min) {
            min= a[i];
            c_min= i;
        }
        if(a[i] >= max) {
            max= a[i];
            c_max= i;
        }
    }
    for(i=0; i<n; i++) {
        if(i == c_min)
            printf("%d ", max);
        else if(i == c_max)
            printf("%d ", min);
        else
            printf("%d ", a[i]);
    }
    return 0;
}

// M No of sheet 3
```

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By sorowarmahabub1709vip, contest: Sheet #3 (Arrays), problem: (O) Fibonacci, **Accepted**,

```c
#include<stdio.h>
int main() {
    int n, i;
    scanf("%d", &n);
    long long int a[n], fi= 0, sec= 1, fib;
    for(i=0; i<n; i++) {
        if(i<=1)
            fib=i;
        else if(i>=2) {
            fib= fi+sec;
            fi= sec;
            sec= fib;
        }
        a[i]= fib;
    }
    printf("%lld\n", a[n-1]);
    return 0;
}

// O No of sheet 3
```

By sorowarmahabub1709vip, contest: Sheet #3 (Arrays), problem: (S) Search In Matrix, **Accepted**,

```c
#include<stdio.h>
int main()
{
    int m, n;
    scanf("%d%d",&m, &n);

    long long int a[1005][1005], d, x, y, j;
    for(y= 0; y<m; y++)
        for(j= 0; j<n; j++)
            scanf("%lld", &a[y][j]);

    scanf("%lld", &x);
    for(y= 0; y<m; y++) {
        for(j=0; j<n; j++) {
            if(a[y][j] == x) {
                d=1;
                break;
            }
            else
                d=0;
        }
        if(d ==1 )
            break;
    }
    if(d == 1)
        printf("will not take number\n");
    else if(d == 0)
        printf("will take number\n");
    return 0;
}
```

By sorowarmahabub1709vip, contest: Sheet #3 (Arrays), problem: (T) Matrix , Accepted,

```c
#include<stdio.h>
#include<stdlib.h>
#include<math.h>
int main() {
    int i, j, n, sum=0, res=0;
    scanf("%d", &n);
    int a[n][n];
    for(i=0;i<n;i++) {
        for(j=0;j<n;j++)
            scanf("%d", &a[i][j]);
        sum=sum+a[i][i];
        res=res+a[i][n-1-i];
    }

    printf("%d\n", abs(sum-res));
    return 0;
}

// T No of sheet 3
```

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By sorowarmahabub1709vip, contest: Sheet #3 (Arrays), problem: (W) Mirror Array, **Accepted**,

```c
#include<stdio.h>
int main()
{
    int m, n;
    scanf("%d%d", &m, &n);
    int a[m][n], b[m][n], i, j, k;
    for(i= 0; i<m; i++)
        for(j= 0; j<n; j++)
            scanf("%d",  &a[i][j]);

    for(i=0; i<m; i++)
    {
        for(j= 0,k= n-1; j<n; j++,--k)
        {
            b[i][j]= a[i][k];
            printf("%d ", b[i][j]);
        }
        printf("\n");
    }
    return 0;
}

// W No of sheet 3
```

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