```c
/*2Darrays*/
int max_sum = 0;

    for(int i = 0; i < 4; i++) {
        for(int j = 0; j < 4; j++) {

            int temp_sum = 0;
            // top row
            temp_sum += arr[i][j];
            temp_sum += arr[i][j+1];
            temp_sum += arr[i][j+2];
            //middle
            temp_sum += arr[i+1][j+1];
            //bottom row
            temp_sum += arr[i+2][j];
            temp_sum += arr[i+2][j+1];
            temp_sum += arr[i+2][j+2];

            //if first hourglass, set as max
            if(temp_sum > max_sum){
                max_sum = temp_sum;///this will keep it up to date
            }
        }
    }
```

```cpp
/*array-DS*/
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;

int main() {

    int T,ar[1000];
    cin >> T;
    for(int i = 0;i < T; i++)cin >> ar[i];
    for(int i = T-1; i >=0; i--)cout << ar[i] << " ";
    return 0;
}
```

```
/*Big sum*/
#include <bits/stdc++.h>
#include<iostream>
#include<algorithm>
using namespace std;
int main(){
int n;
int i;
long sum=0;
cin>>n;
  vector<int>arr(n);
  for (int i=0;i<n;i++){
    cin>>arr[i];
  }
  for(int i=0;i<n;i++){
   sum+=arr[i];
   }
   cout<<sum<<endl;
   return 0;
}
```

```c
/*find the point*/
#include <iostream>
using namespace std;

int main() {

	int n, px, py, mx, my;
	cin >> n;

	for (int i = 1; i <= n; i++){

		cin >> px >> py >> mx >> my;

		int rx = 2 * mx - px;
		int ry = 2 * my - py;

		cout << rx << " " << ry << endl;
	}

	return 0;
}
```

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

void solution() {
     int n, x;
     cin>>n;
     for(int i=0; i<n; i++){
        cin>>x;
        if(x>=38 and x%5>=3){
            while(x%5!=0){
               x++;
            }
        }
        cout<<x<<endl;
     }
}

int main () {
    solution();
    return 0;
}
```

```c
/*Maximum sum1*/
#include <bits/stdc++.h>
#include<iostream>
#include<algorithm>
using namespace std;
int main(){
  vector<int>a(5);
 for(int i=0;i<5;i++){
   cin>>a[i];
   int maxi;
   int mini;
   int maxisum;
  int minisum;
  int sum=0;

  for(int i=0;i<5;i++){
 if( (a[0]>a[1])&&(a[0]>a[2])&&(a[0]>a[2])&&(a[0]>a[3])&&(a[0]>a[4]))
 maxi==a[0];
 else if ((a[1]>a[2])&&(a[1]>a[3])&&(a[1]>a[4]))
 maxi==a[1];
 else if((a[2]>a[3])&&(a[2]>a[4]))
 maxi==a[2];

 else if((a[3]>a[4]))
 maxi==a[3];
   else
   maxi==a[4];
  }
   for(int i=0;i<5;i++){
   cin>>a[i];
 if( (a[0]<a[1])&&(a[0]<a[2])&&(a[0]<a[2])&&(a[0]<a[3])&&(a[0]<a[4]))
 mini==a[0];
 else if ((a[1]<a[2])&&(a[1]<a[3])&&(a[1]<a[4]))
 mini==a[1];
else if((a[2]<a[3])&&(a[2]<a[4]))
mini==a[2];

 else if((a[3]<a[4]))
 mini==a[3];
   else
   mini==a[4];
   }
   for(int i=0;i<5;i++){
   sum+=a[i];
   maxisum=sum-mini;
   minisum=sum-maxi;
  }
   cout<<maxisum<<" "<<minisum;
   return 0;
   }
   }
```

```
/*minimax2*/
#include <bits/stdc++.h>
using namespace std;

int main()
{
int var,i;
long long int sum=0;

vector<int> array;

for(i=0; i<5; i++)
{
        cin>>var;
        sum+=var;
        //cout<<sum<<" ";
        array.push_back(var);
}
//cout<<endl;

        sort(array.begin(), array.end());

/*for(i=0; i<5; i++)
{
 cout<<array[i]<<endl;
}*/
        cout<<sum-array[4]<<" "<<sum-array[0];
        return 0;
}
```

```
/*Plusminus1*/
#include <bits/stdc++.h>
#include<iostream>
#include<algorithm>
using namespace std;
int main(){
  int n;
  int positive=0;
  int minus=0;
  int zero=0;
  int a[n];
  cin>>n;
  //vector<int>a();
  for(int i=0; i<n;i++){
    cin>>a[i];
    }
   for(int i=0; i<n;i++){
  if (a[i]>0){
    positive++;
    }
  else if (a[i]<0){
    minus++;
    }
  else if(a[i]==0){
    zero++;
    }
  cout<<positive/n<<" "<<minus/n<<" "<<zero/n;
  }
  return 0;
  }
```

```c
/*plusminus2*/
#include <stdio.h>

int main()
{
   int size,inpu;
   scanf("%d",&size);
   int pos=0,neg=0,zer=0;
   for(int i=0;i<size;i++) {
        scanf("%d",&inpu);
        if(inpu>0) pos++;
          else if(inpu<0) neg++;
             else zer++;
   }
   printf("%6f\n",(float)pos / size);
   printf("%6f\n%6f\n",(float)neg / size ,(float)zer / size);
   return 0;
}
```

```
/*print element*/
void Print(Node *head)
{
    Node *current = head;

    while (current != NULL) {
        cout << current -> data << endl;
        current = current -> next;
    }
}
```

```c
/*staircase*/
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;

int main()
{
    int n,i,j,k;
    cin >> n;

    for(i=n;i>=1;i--)
   {
        for(j=1;j<i;j++)
        {
            cout<<" ";
        }
        for(k=n;k>=i;k--)
        {
            cout<<"#";
        }
        cout<<endl;
    }

    return 0;
}
```

```c
/*Time conversion*/
#include <math.h>
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#include <assert.h>
#include <limits.h>
#include <stdbool.h>
int main(){


    int hh, mm, ss ;
    char t12[2];
    scanf("%d:%d:%d%s", &hh, &mm, &ss, t12) ;
    if (strcmp(t12,"PM")==0 && hh!=12) hh += 12 ;
    if (strcmp(t12,"AM")==0 && hh==12) hh = 0 ;
    printf("%02d:%02d:%02d", hh, mm, ss) ;
    return 0;
}
```

```
/*Triplets*/
#include <bits/stdc++.h>
#include<iostream>
#include<algorithm>
using namespace std;
int main(){
  vector<int>a(3);
  vector<int>b(3);
  int sum1=0;
  int sum2=0;
  for (int i=0;i<3;i++)
    cin>>a[i];
  for (int j=0;j<3;j++)
    cin>>b[j];
  if(a[0]>b[0])
    sum1=sum1+1;
  else if (b[0]>a[0])
    sum2=sum2+1;
  if(a[1]>b[1])
    sum1=sum1+1;
  else if (b[1]>a[1])
    sum2=sum2+1;
  if(a[2]>b[2])
    sum1=sum1+1;
  else if (b[2]>a[2])
  sum2=sum2+1;
  cout<<sum1<<" "<<sum2;
  return 0;
}
```