Q1.

```
#include<bits/stdc++.h>
using namespace std;
int main() {
    int n;
    cin>>n;
    int i,s[n],f[n];
    for(i=0;i<n;i++)
    cin>>s[i];
    for(i=0;i<n;i++)
    cin>>f[i];
    vector<vector<int>> a;
    vector<int> act;
    for(i=0;i<n;i++)
    a.push_back({f[i],s[i],i+1});
    sort(a.begin(),a.end());
    int e=INT_MIN,c=0;
    for(i=0;i<n;i++)
    {
        if(a[i][1]>=e)
        {
            e=a[i][0];
            c++;
            act.push_back(a[i][2]);
        }
    }
    cout<<"No. of non-conflicting activities : "<<c<<endl;
    cout<<"List of selected activities : ";
    for(i=0;i<act.size();i++)
    cout<<act[i]<<",";
    return 0;
}
```

OUTPUT-

10

1 3 0 5 3 5 8 8 2 12

4 5 6 7 9 9 11 12 14 16

```
[Success] Your code was executed successfully
No. of non-conflicting activities : 4
List of selected activities : 1,4,7,10
```

Q2.

```
#include<bits/stdc++.h>
using namespace std;
int main()
{
    int n;
    cin>>n;
    int i,t[n],f[n];
    for(i=0;i<n;i++)
    cin>>t[i];
    for(i=0;i<n;i++)
    cin>>f[i];
    vector<vector<int>> a;
    vector<int> act;
    for(i=0;i<n;i++)
    a.push_back({f[i],f[i]-t[i],i+1});
    sort(a.begin(),a.end());
    int e=INT_MIN,c=0;
    for(i=0;i<n;i++)
    {
        if(a[i][1]>=e)
        {
            e=a[i][0];
            c++;
            act.push_back(a[i][2]);
        }
    }
    sort(act.begin(),act.end());
    cout<<"Max number of tasks : "<<c<<endl;
    cout<<"Selected task Numbers : ";
    for(i=0;i<act.size();i++)
    cout<<act[i]<<",";
    return 0;
}
```

OUTPUT-

```
7

2 1 3 2 2 2 1

2 3 8 6 2 5 3

[Success] Your code was executed successfully
Max number of tasks : 4
Selected task Numbers : 1,2,3,6
```

Q3.

```
#include<bits/stdc++.h>
using namespace std;
int main()
{
    int n;
    cin>>n;
    int i,a[n],c,j;
    for(i=0;i<n;i++)
    cin>>a[i];
    bool f=0;
    sort(a,a+n);
    for(i=0;i<n;i++)
    {
        c=1;
        j=i+1;
        while(j<n && a[j++]==a[i])
            c++;
        if(c>n/2)
        {
            cout<<"yes\n";
            f=1;
            break;
        }
        i=j-1;
    }
    if(f==0)
    cout<<"no\n";
    if(n%2!=0)
    cout<<a[n/2];
    else
    cout<<((float)a[n/2]+a[n/2-1])/2;
    return 0;
}
```

OUTPUT-

```
9

4 4 2 3 2 2 3 2 2

[Success] Your code was executed successfully
yes
2
```