

```
/*Array introduction*/
int main(){
    int n;
    cin>>n;
    int a[n];
    for(int i=0;i<n;i++)
        cin>>a[i];
    for (int i=n; i>0; i--)
        cout<<a[i-1]<<" ";
    return 0;

}
```

```
/*Basic data types*/
#include <iostream>
#include <cstdio>
using namespace std;
    // Complete the code.

int main(){
    int a;
    long b;
    char ch;
    float c;
    double d;
    scanf("%d %ld %c %f %lf", &a,&b,&ch,&c,&d);
    printf("%d\n%ld\n%c\n%f\n%lf\n",a,b,ch,c,d);
    return 0;
}
```

```
/*Class*/
#include <iostream>
#include <sstream>
using namespace std;

/*
Enter code for class Student here.
Read statement for specification.
*/
class Student
{
    int age;
    string first_name;
    string last_name;
    int standard;
public:
    void set_age(int a)
    {
        age=a;
    }
    int get_age()
    {
        return age;
    }
    void set_first_name(string b){
        first_name=b;
    }
    string get_first_name()
    {
        return first_name;
    }
    void set_last_name(string c){
        last_name=c;
    }
    string get_last_name(){
        return last_name;
    }
    void set_standard(int d){
        standard=d;
    }
    int get_standard(){
        return standard;
    }
    string to_string(){
        string str;
        stringstream ss;
        ss<<age<<","<<first_name<<","<<last_name<<","<<standard;
        str=ss.str();
        return str;
    }
};

int main() {
    int age, standard;
    string first_name, last_name;

    cin >> age >> first_name >> last_name >> standard;

    Student st;
    st.set_age(age);
    st.set_standard(standard);
    st.set_first_name(first_name);
    st.set_last_name(last_name);
}
```

```
cout << st.get_age() << "\n";
cout << st.get_last_name() << ", " << st.get_first_name() << "\n";
cout << st.get_standard() << "\n";
cout << "\n";
cout << st.to_string();

return 0;
}
```

```
/*Conditional statements*/
#include <bits/stdc++.h>
using namespace std;
int main(){
    int n;
    cin>>n;
    if ((n<=9)&&(n>=1)&&(n==1))
        cout<<"one";
    else if ((n<=9)&&(n>=1)&&(n==2))
        cout<<"two";
    else if ((n<=9)&&(n>=1)&&(n==3))
        cout<<"three";
    else if ((n<=9)&&(n>=1)&&(n==4))
        cout<<"four";
    else if ((n<=9)&&(n>=1)&&(n==5))
        cout<<"five";
    else if ((n<=9)&&(n>=1)&&(n==6))
        cout<<"six";
    else if ((n<=9)&&(n>=1)&&(n==7))
        cout<<"seven";
    else if ((n<=9)&&(n>=1)&&(n==8))
        cout<<"eight";
    else if ((n<=9)&&(n>=1)&&(n==9))
        cout<<"nine";
    else
        cout<<"Greater than 9";

    return 0;
}
```

```
/*For loop*/
#include <iostream>
#include <cstdio>
using namespace std;
// Complete the code.
using namespace std;
int main(){
    int a, b;
    cin>>a>>b;
    for (int i=a; i<=b ; i++){
        string b[11]={"one","two","three","four","five","six","seven","eight","nine",
            "odd","even"};

        if ((i>=1)&&(i<=9))
            cout<< b[i-1]<<endl;
        else if ((i>9)&&(i%2==0))
            cout<<b[10]<<endl;
        else
            cout<<b[9]<<endl;
    }

    return 0;
}
```

```
/*Function*/
#include <iostream>
#include <cstdio>
#include <cmath>
using namespace std;
int max_of_four(int a, int b, int c, int d){
    int max;
    cin>>a>>b>>c>>d;
    if ((a>b)&&(a>c)&&(a>d))
        max=a;
    else if((b>c)&&(b>d))
        max=b;
    else if(c>d)
        max=c;
    else max=d;
    return max;
}

int main() {
    int a, b, c, d;
    scanf("%d %d %d %d", &a, &b, &c, &d);
    int ans = max_of_four(a, b, c, d);
    printf("%d", ans);

    return 0;
}
```

```
/*Input & Output*/
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
/* Enter your code here. Read input from STDIN. Print output to STDOUT */
using namespace std;
int main(){
    int a,b,c;
    int sum;
    cin>>a>>b>>c;
    sum=a+b+c;
    cout<<sum<<endl;
    return 0;
}
```



```
/*Pointer*/
#include <stdio.h>
#include <cmath>
void update(int *a,int *b){
    *a=*a+*b;
    *b=abs(*a-*b-*b);
}

int main() {
    int a, b;
    int *pa = &a, *pb = &b;

    scanf("%d %d", &a, &b);
    update(pa, pb);
    printf("%d\n%d", a, b);

    return 0;
}
```

```
#include <iostream>
#include <string>
using namespace std;
int main(){
    string a,b;
    cin>>a>>b;
    cout<<a.size()<<" "<<b.size()<<endl;
    cout<<a+b<<endl;
    cout<<b[0]+a.substr(1)<<" "<<a[0]+b.substr(1);
    return 0;
}
```

```
/*Stringstream*/
#include <sstream>
#include <vector>
#include <iostream>
using namespace std;
vector<int> parseInts(string str) {
    stringstream s(str);
    vector<int> vect;
    char ch;
    int integer;

    while (s>> integer) {
        vect.push_back(integer);
        s>>ch;
    }

    return vect;
}

int main() {
    string str;
    cin >> str;
    vector<int> integers = parseInts(str);
    for(int i = 0; i < integers.size(); i++) {
        cout << integers[i] << "\n";
    }

    return 0;
}
```

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

/*
    add code for struct here.
*/
struct Student
{
    int age, standard;
    string first_name;
    string last_name;
};

int main() {
    Student st;

    cin >> st.age >> st.first_name >> st.last_name >> st.standard;
    cout << st.age << " " << st.first_name << " " << st.last_name << " " <<
    st.standard;

    return 0;
}
```

```
/*Variable sized array*/
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;

int main() {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    int q, n;
    cin>>q>>n;
    vector <int> a[n];
    for (int i=0; i<n; i++){
        int k;
        cin>>k;
        int h;
        for (int j=0; j<k; j++){
            cin>> h;
            a[i].push_back(h);
        }
        int x,y;
        for (int k=1; k<=q ; k++){
            cin>>x>>y;
            cout<<a[x][y]<<endl;
        }
    }

    return 0;
}
```