

Arrays of integers

```
#include <iostream>
using namespace std;
const int MAX = 5;

void printarray(int *ptr );

int main ()
{
    int number[MAX] = {11, 22, 33,44,55};
    int *ptr = number;
    cout << "\n\n\tAddress of array in main is ";
    cout << ptr << endl<<endl<<endl;
    printarray(number);
    return 0;
}
//-----

void printarray(int *ptr )
{ int i,*top;

    //Print array forward-----

    for ( i = 0; i < MAX; i++)
    {
        cout << "\tAddress of number[" << i << "] = ";
        cout << ptr << "\t\t";

        cout << "Value of number[" << i << "] = ";
        cout << *ptr << endl<<endl;
        ptr++;
    }
    top=ptr;
    cout << "\n\n\tAddress of ptr after for loop is ";
    cout << top << endl<<endl<<endl;
    ptr--;

    //Print array reverse-----

    for (i = MAX-1; i >= 0; i--)
    {
        cout << "\tAddress of number[" << i << "] = ";
        cout << ptr << "\t\t";

        cout << "Value of number[" << i << "] = ";
        cout << *ptr << endl<<endl;
        ptr--;
    }
    cout << "\n\n\tAddress of ptr after reverse loop is ";
    cout << ptr << endl<<endl<<endl;
}
```

Address of array in main is 0x22fe98

Address of number[0] = 0x22fe98	Value of number[0] = 11
Address of number[1] = 0x22fe9c	Value of number[1] = 22
Address of number[2] = 0x22fea0	Value of number[2] = 33
Address of number[3] = 0x22fea4	Value of number[3] = 44
Address of number[4] = 0x22fea8	Value of number[4] = 55

Address of ptr after for loop is 0x22feac

Address of number[4] = 0x22fea8	Value of number[4] = 55
Address of number[3] = 0x22fea4	Value of number[3] = 44
Address of number[2] = 0x22fea0	Value of number[2] = 33
Address of number[1] = 0x22fe9c	Value of number[1] = 22
Address of number[0] = 0x22fe98	Value of number[0] = 11

Address of ptr after reverse loop is 0x22fe94

Arrays of doubles

```
#include <iostream>

using namespace std;
const int MAX = 5;

void printarray(double *ptr ) ;

int main ()
{
    double  number[MAX] = {11, 22, 33,44,55};
    double  *ptr = number;
    cout << "\n\n\tAddress of array in main is ";
    cout << ptr << endl<<endl<<endl;
    printarray(number);
    return 0;
}

//-----
void printarray(double *ptr )
{ int i;
  double *top;
  //Print array forward-----
  for ( i = 0; i < MAX; i++)
  {
      cout << "\tAddress of number[" << i << "] = ";
      cout << ptr << "\t\t";

      cout << "Value of number[" << i << "] = ";
      cout << *ptr << endl<<endl;
      ptr++;
  }
  top=ptr;
  cout << "\n\n\tAddress of ptr after for loop is ";
  cout << top << endl<<endl<<endl;
  ptr--;

  //Print array reverse-----
  for (i = MAX-1; i >= 0; i--)
  {
      cout << "\tAddress of number[" << i << "] = ";
      cout << ptr << "\t\t";

      cout << "Value of number[" << i << "] = ";
      cout << *ptr << endl<<endl;
      ptr--;
  }
  cout << "\n\n\tAddress of ptr after reverse loop is ";
  cout << ptr << endl<<endl<<endl;
}
```

Address of array in main is 0x22fe80

Address of number[0] = 0x22fe80	Value of number[0] = 11
Address of number[1] = 0x22fe88	Value of number[1] = 22
Address of number[2] = 0x22fe90	Value of number[2] = 33
Address of number[3] = 0x22fe98	Value of number[3] = 44
Address of number[4] = 0x22fea0	Value of number[4] = 55

Address of ptr after for loop is 0x22fea8

Address of number[4] = 0x22fea0	Value of number[4] = 55
Address of number[3] = 0x22fe98	Value of number[3] = 44
Address of number[2] = 0x22fe90	Value of number[2] = 33
Address of number[1] = 0x22fe88	Value of number[1] = 22
Address of number[0] = 0x22fe80	Value of number[0] = 11

Address of ptr after reverse loop is 0x22fe78

Array of Structures

```
#include <iostream>
#include <string>

using namespace std;
const int MAX = 5;

struct houserecord
{
    double price;
    double bathrooms;
    int bedrooms;
};

void printarray(houserecord *ptr );

int main ()
{
    houserecord house[MAX];
    houserecord *ptr = house;
    cout << "\n\n\tAddress of array in main is ";
    cout << ptr << endl<<endl<<endl;
    printarray(house);
    return 0;
}

//-----
void printarray(houserecord *ptr )
{
    int i;
    houserecord *top;

    for ( i = 0; i < MAX; i++)
    {
        cout << "\tAddress of number[" << i << "] = ";
        cout << ptr << endl;
        ptr++;
    }
    top=ptr;
    cout << "\n\n\tAddress of ptr after for loop is ";
    cout << top << endl<<endl<<endl;
    ptr--;

    for (i = MAX-1; i >= 0; i--)
    {
        cout << "\tAddress of number[" << i << "] = ";
        cout << ptr << "\n";
        ptr--;
    }
    cout << "\n\n\tAddress of ptr after reverse loop is ";
    cout << ptr << endl<<endl<<endl;
}
```

```
Address of array in main is 0x22fe30
```

```
Address of number[0] = 0x22fe30  
Address of number[1] = 0x22fe48  
Address of number[2] = 0x22fe60  
Address of number[3] = 0x22fe78  
Address of number[4] = 0x22fe90
```

```
Address of ptr after for loop is 0x22fea8
```

```
Address of number[4] = 0x22fe90  
Address of number[3] = 0x22fe78  
Address of number[2] = 0x22fe60  
Address of number[1] = 0x22fe48  
Address of number[0] = 0x22fe30
```

```
Address of ptr after reverse loop is 0x22fe18
```

Link to data types

https://www.tutorialspoint.com/cplusplus/cpp_data_types.htm

Representations of numbers

<http://ccm.net/contents/62-representation-of-real-numbers-and-integers>