Pointer&dyanamic memory

1

```
//address of operator
//if i ma writing like &x then i am saying that give
//the address of x
#include <iostream>
using namespace std;
int main(){
    int x= 5;
    cout << &x <<endl;
}
```

2

```
//pointers
/*
all are valid
you can put space anyware
int * x;
int* x;
int * x'
*/
#include <iostream>
using namespace std;
int main(){
    int x= 5;
    cout << &x <<endl;

    //demo pointer
    int *xptr = &x;
    cout << xptr <<endl;
    //dereference pointer
    cout << *xptr << endl;
    //addresss of the pointer variable
    cout << &xptr <<endl;
    //Pointer to Pointer
    int ** xxptr = &xptr;
    cout << xxptr <<endl;

}
```

3

```
#include <bits/stdc++.h>
using namespace std;
// pass by value
```

```
//and after adding the & it is going to become
void applyTax(int &income){
    float tax = 0.10;
    income = (1-tax)*income;
}
int main()
{
    int income;
    cin>>income;
    applyTax(income);
    cout<< income<<endl;
}
```

4

```
#include <iostream>
using namespace std;
void watchVideo(int *viewsPtr)
{
    //watch video should increment view count by 1
    *viewsPtr = *viewsPtr + 1;
}
int main()
{
    int views = 100;
    watchVideo(&views);
    cout << views << endl;
    return 0;
}
```

5

```
//dynamic memory
#include <bits/stdc++.h>
using namespace std;
int main(){
    int n;
    cin>>n;
    //dynamic array
    int *arr = new int[n];

    for (int i = 0; i < n; ++i)
    {
        arr[i] = i;
        cout << arr[i] << " ";
    }
    //delete this array
    delete [] arr;
```

```
    cout << arr << endl;
    return 0;
}
```