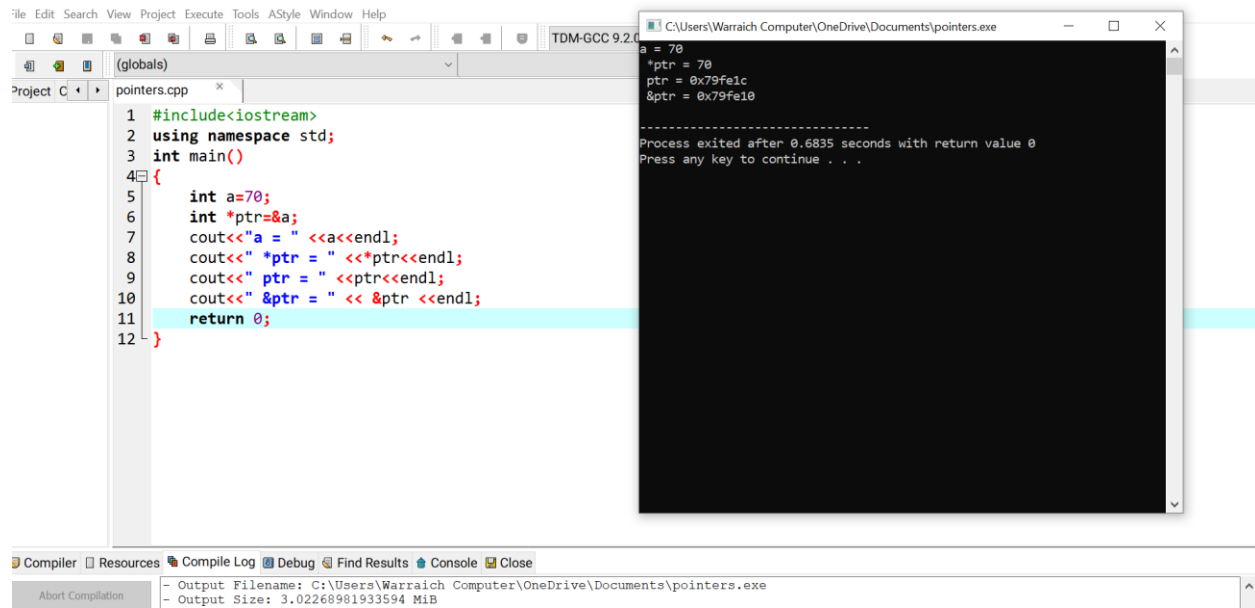


# PROGRAMMING FUNDAMENTAL

## POINTERS

### Task 1



```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     int a=70;
6     int *ptr=&a;
7     cout<<"a = " <<a<<endl;
8     cout<<" *ptr = " <<*ptr<<endl;
9     cout<<" ptr = " <<ptr<<endl;
10    cout<<" &ptr = " << &ptr <<endl;
11    return 0;
12 }
```

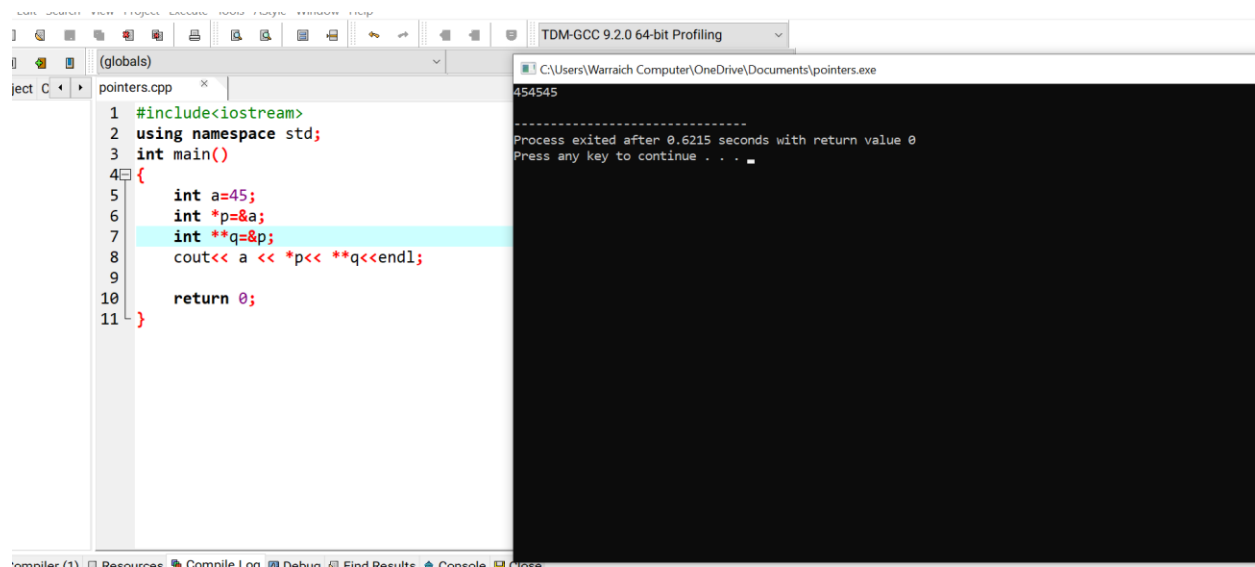
```
a = 70
*ptr = 70
ptr = 0x79fe1c
&ptr = 0x79fe10

-----
Process exited after 0.6835 seconds with return value 0
Press any key to continue . . .
```

Compiler: TDM-GCC 9.2.0  
Output Filename: C:\Users\Warraich Computer\OneDrive\Documents\pointers.exe  
Output Size: 3.02268981933594 MiB

L

### Task 2

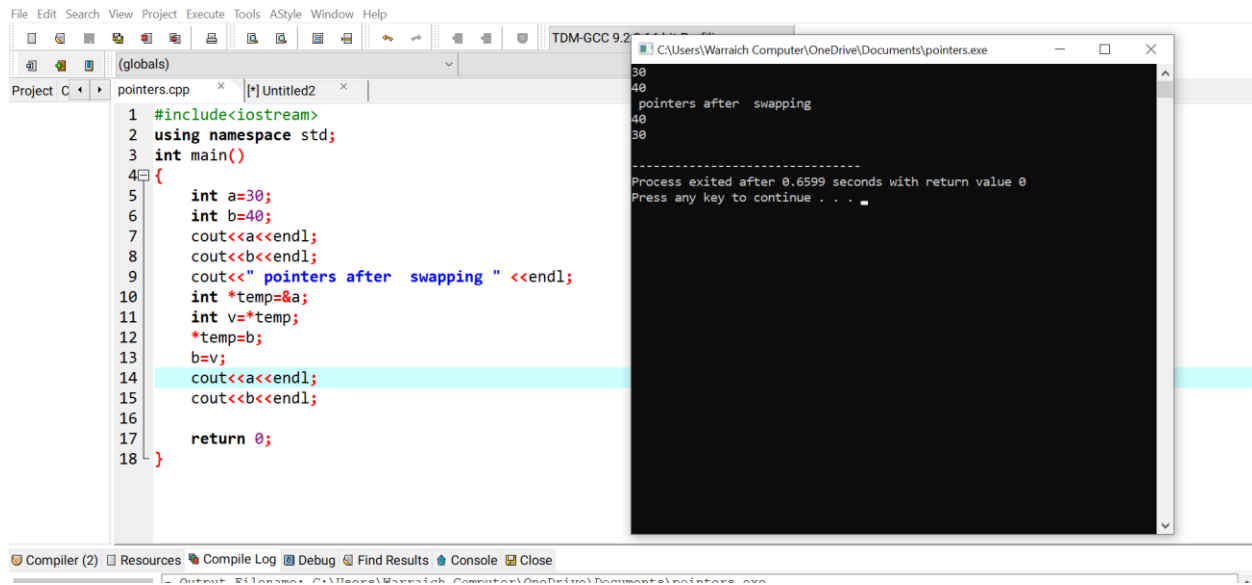


```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     int a=45;
6     int *p=&a;
7     int **q=&p;
8     cout<<" a << *p << **q<<endl;
9
10    return 0;
11 }
```

```
454545
-----
Process exited after 0.6215 seconds with return value 0
Press any key to continue . . .
```

Compiler: TDM-GCC 9.2.0 64-bit Profiling

## Task 3



The screenshot displays a C++ IDE with two windows. The left window, titled 'pointers.cpp', contains the following code:

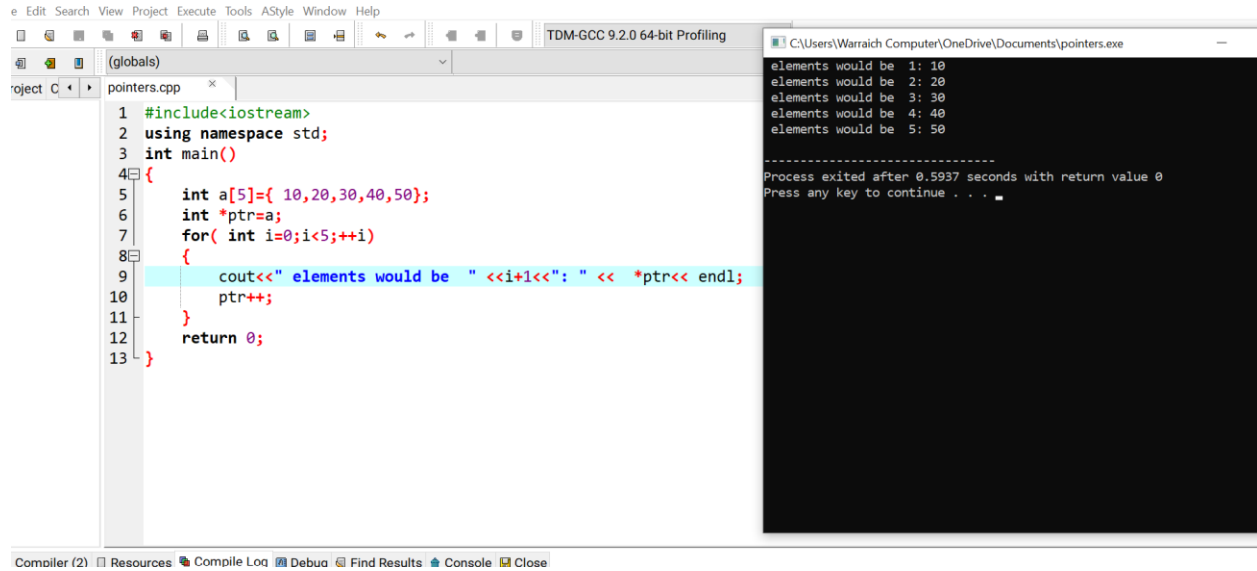
```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     int a=30;
6     int b=40;
7     cout<<a<<endl;
8     cout<<b<<endl;
9     cout<<" pointers after swapping " <<endl;
10    int *temp=&a;
11    int v=*temp;
12    *temp=b;
13    b=v;
14    cout<<a<<endl;
15    cout<<b<<endl;
16
17    return 0;
18 }
```

The right window, titled 'C:\Users\Warraich Computer\OneDrive\Documents\pointers.exe', shows the program's output:

```
30
40
pointers after swapping
40
30
-----
Process exited after 0.6599 seconds with return value 0
Press any key to continue . . .
```

The IDE's status bar at the bottom indicates 'Compiler (2)', 'Resources', 'Compile Log', 'Debug', 'Find Results', 'Console', and 'Close'.

# Task 4

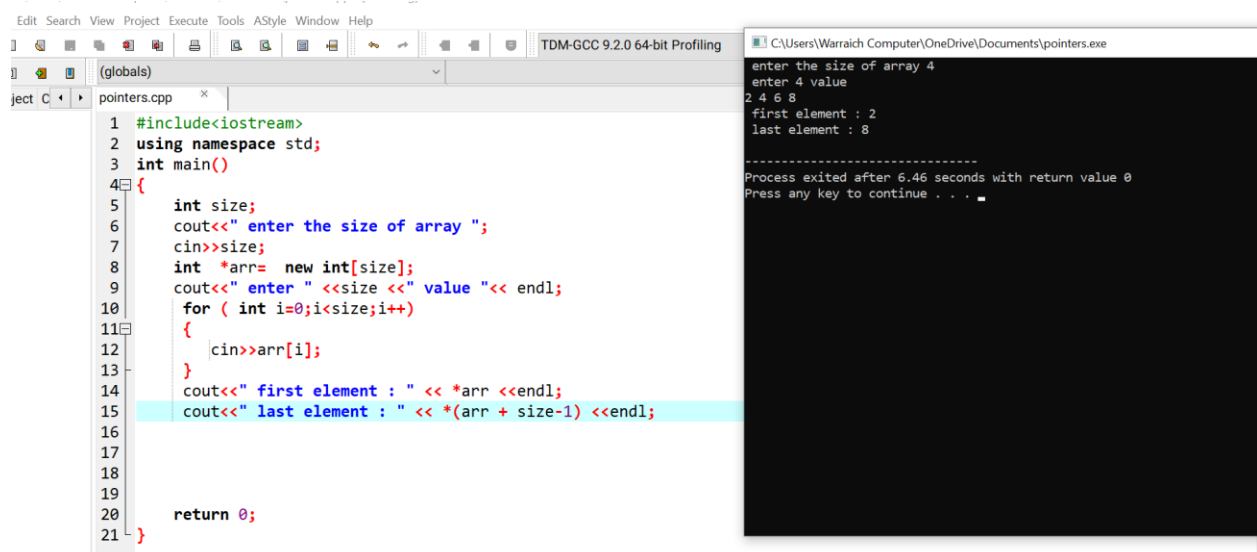


```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     int a[5]={ 10,20,30,40,50};
6     int *ptr=a;
7     for( int i=0;i<5;++i)
8     {
9         cout<<" elements would be " <<i+1<<" : " << *ptr<< endl;
10        ptr++;
11    }
12    return 0;
13 }
```

elements would be 1: 10  
elements would be 2: 20  
elements would be 3: 30  
elements would be 4: 40  
elements would be 5: 50

-----  
Process exited after 0.5937 seconds with return value 0  
Press any key to continue . . .

# Task 5



```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     int size;
6     cout<<" enter the size of array ";
7     cin>>size;
8     int *arr= new int[size];
9     cout<<" enter " <<size <<" value "<< endl;
10    for ( int i=0;i<size;i++)
11    {
12        cin>>arr[i];
13    }
14    cout<<" first element : " << *arr <<endl;
15    cout<<" last element : " << *(arr + size-1) <<endl;
16
17
18
19
20    return 0;
21 }
```

enter the size of array 4  
enter 4 value  
2 4 6 8  
first element : 2  
last element : 8

-----  
Process exited after 6.46 seconds with return value 0  
Press any key to continue . . .