UNDERSTANDING DATA STRUCTURES

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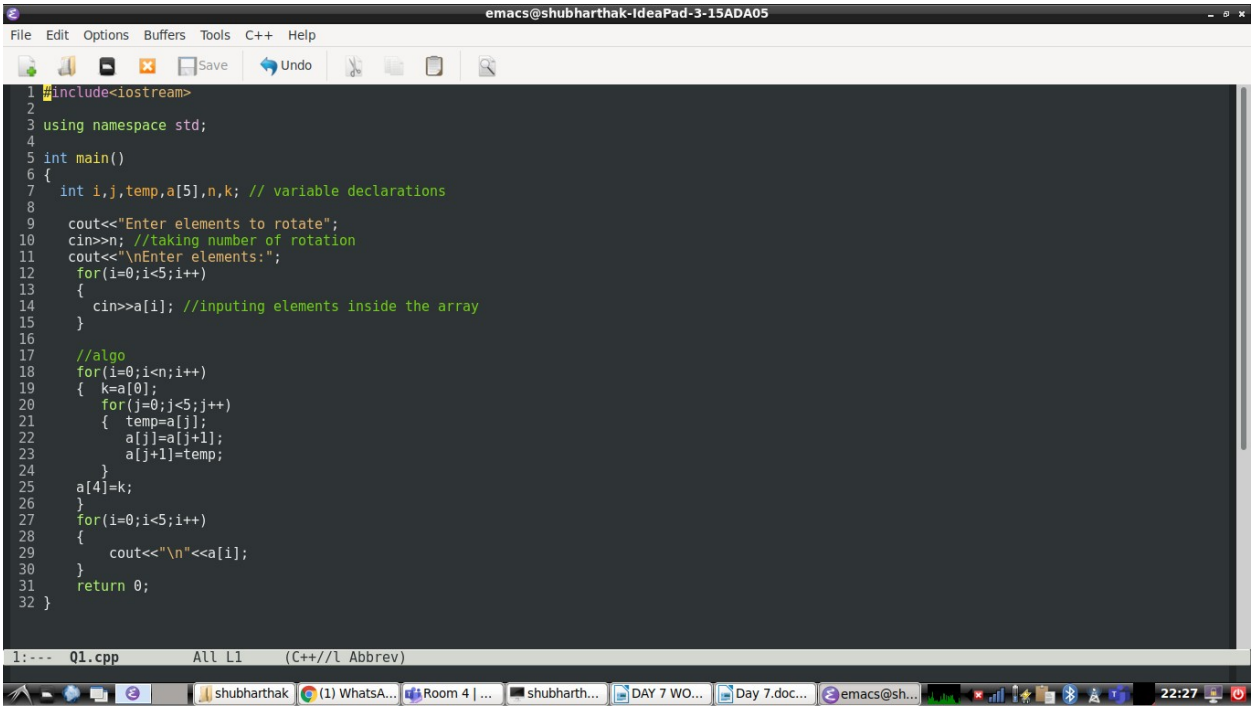
- Write a program for array rotation

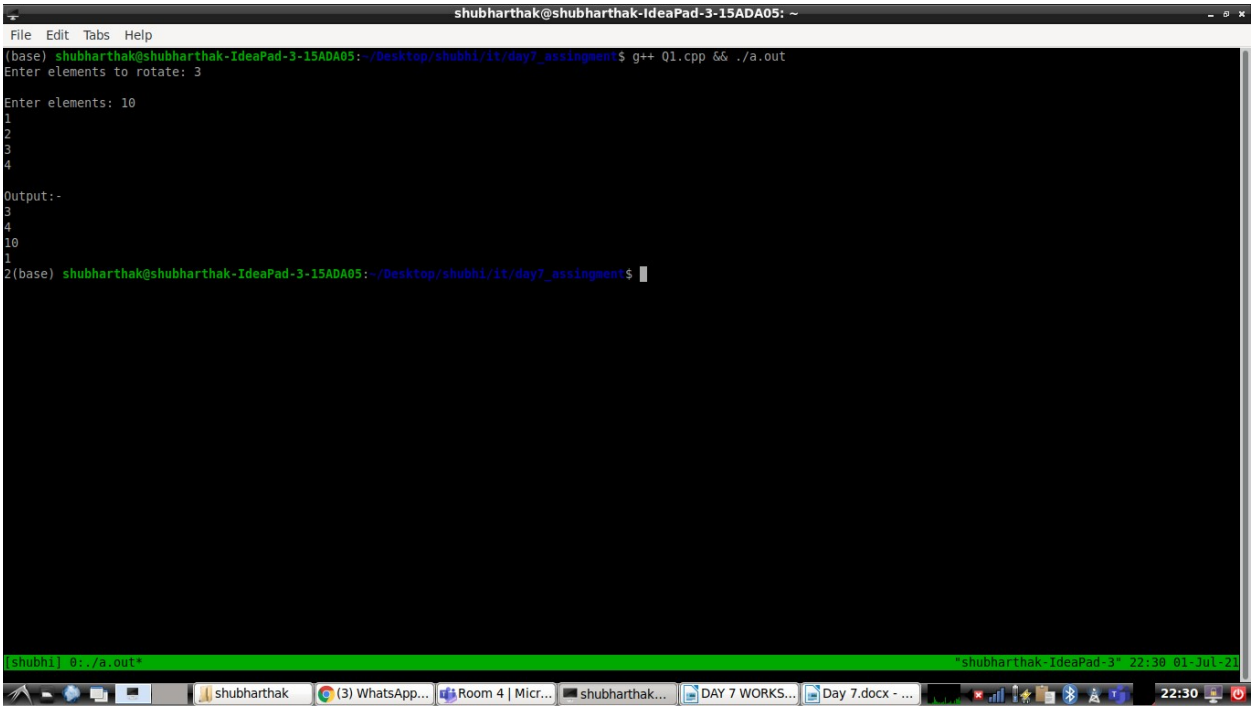
PROGRAM CODE :-

```
#include<iostream>

using namespace std;

int main()
{
  int i,j,temp,a[5],n,k; // variable declarations

   cout<<"Enter elements to rotate";
   cin>>n; //taking number of rotation
   cout<<"\nEnter elements:";
    for(i=0;i<5;i++)
    {
      cin>>a[i]; //inputing elements inside the array
    }

    //algo
```

```
    for(i=0;i<n;i++)
    {  k=a[0];
       for(j=0;j<5;j++)
       {  temp=a[j];
          a[j]=a[j+1];
          a[j+1]=temp;
       }
    a[4]=k;
    }
    for(i=0;i<5;i++)
    {
        cout<<"\n"<<a[i];
    }
    return 0;
}
```



Output:-

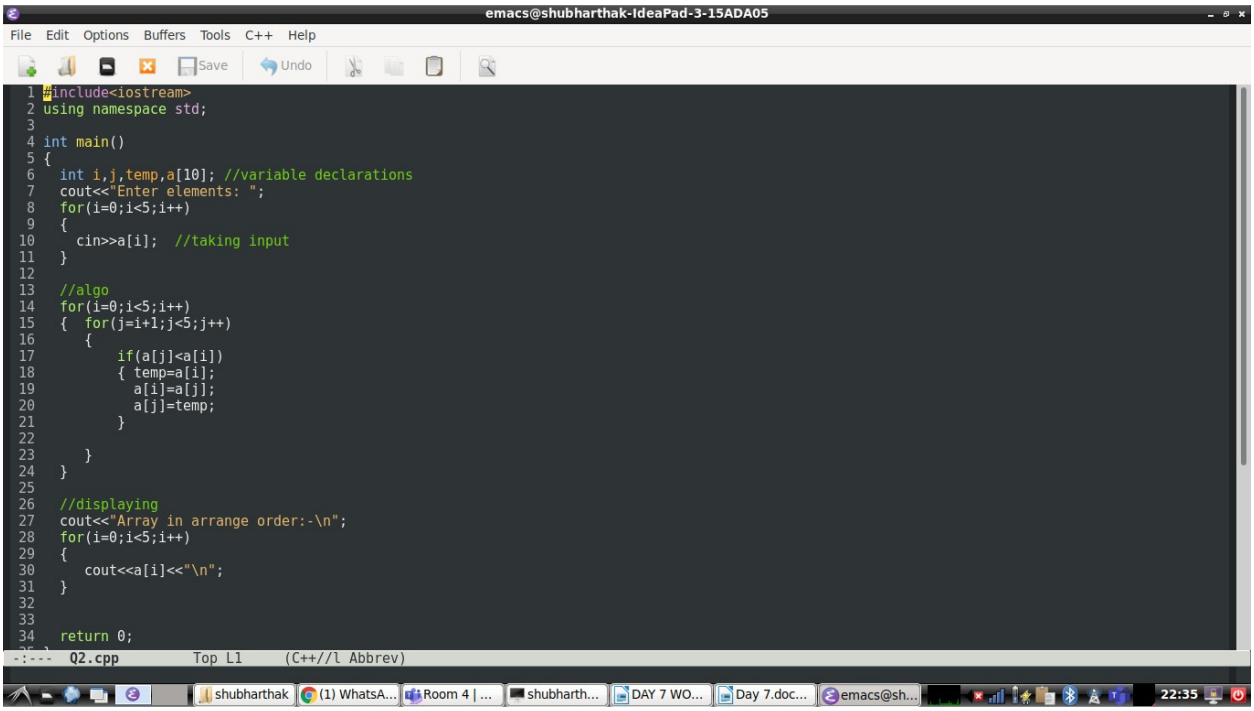


- Write a program to Rearrange an array such that arr[i] = i

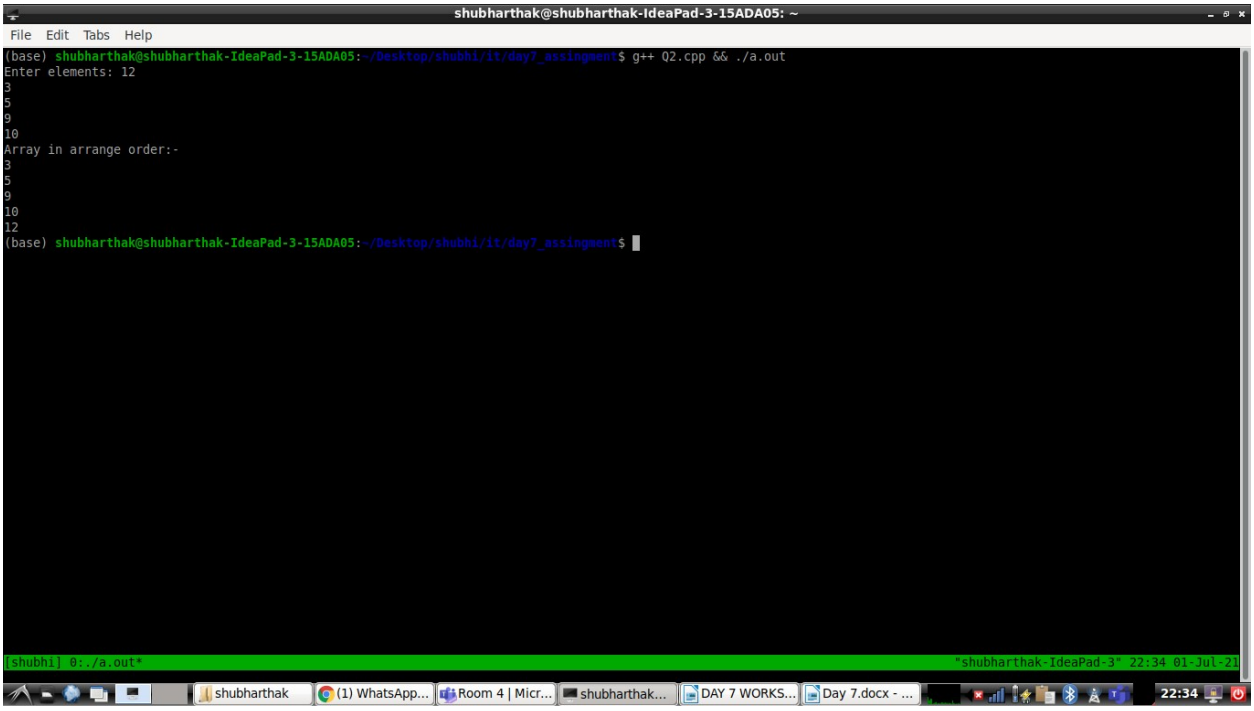
PROGRAM CODE:-

```
#include<iostream>

using namespace std;

int main()
```

```
{ int i,j,temp,a[10];
  cout<<"Enter elements";
  for(i=0;i<5;i++)
  {
     cin>>a[i];
  }
  for(i=0;i<5;i++)
  {  for(j=i+1;j<5;j++)
     {
        if(a[j]<a[i])
        { temp=a[i];
          a[i]=a[j];
          a[j]=temp;
        }

     }
  }
  cout<<"Array in arrange order\n";
  for(i=0;i<5;i++)
  {
     cout<<a[i]<<"\n";
  }


  return 0;
}
```


emacs@shubharthak-IdeaPad-3-15ADA05
File Edit Options Buffers Tools C++ Help
Save Undo
#include<iostream>
using namespace std;
int main()
{
int i,j,temp,a[10]; //variable declarations
cout<<"Enter elements: ";
for(i=0;i<5;i++)
{
cin>>a[i]; //taking input
}
//algo
for(i=0;i<5;i++)
{ for(j=i+1;j<5;j++)
{
if(a[j]<a[i])
{ temp=a[i];
a[i]=a[j];
a[j]=temp;
}
}
}
//displaying
cout<<"Array in arrange order:-\n";
for(i=0;i<5;i++)
{
cout<<a[i]<<"\n";
}
return 0;
-:--- Q2.cpp Top L1 (C++//l Abbrev)
shubharthak (1) WhatsA... Room 4 | ... shubharth... DAY 7 WO... Day 7.doc... emacs@sh...
22:35

OUTPUT:-


shubharthak@shubharthak-IdeaPad-3-15ADA05: ~
File Edit Tabs Help
(base) shubharthak@shubharthak-IdeaPad-3-15ADA05:~/Desktop/shubhi/it/day7_assingment$ g++ Q2.cpp && ./a.out
Enter elements: 12
3
5
9
10
Array in arrange order:-
3
5
9
10
12
(base) shubharthak@shubharthak-IdeaPad-3-15ADA05:~/Desktop/shubhi/it/day7_assingment$
[shubhi] 0:./a.out*
"shubharthak-IdeaPad-3" 22:34 01-Jul-21
shubharthak (1) WhatsApp... Room 4 | Micr... shubharthak... DAY 7 WORKS... Day 7.docx - ...
22:34