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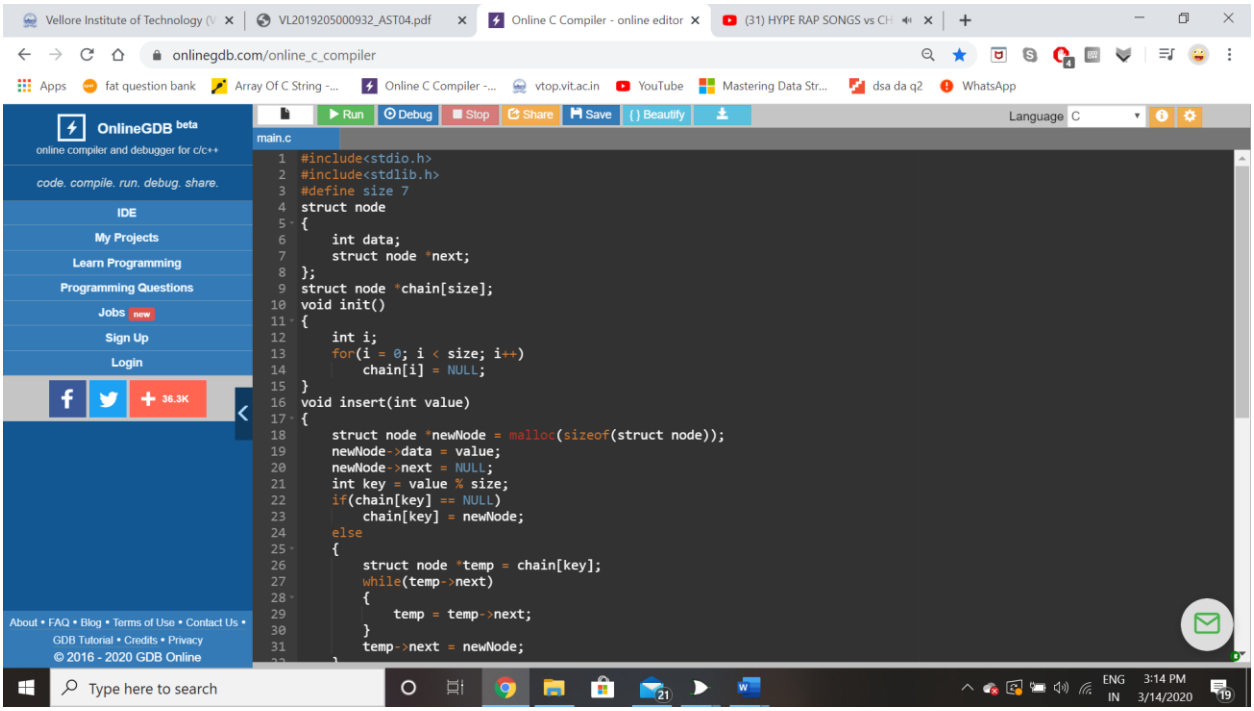
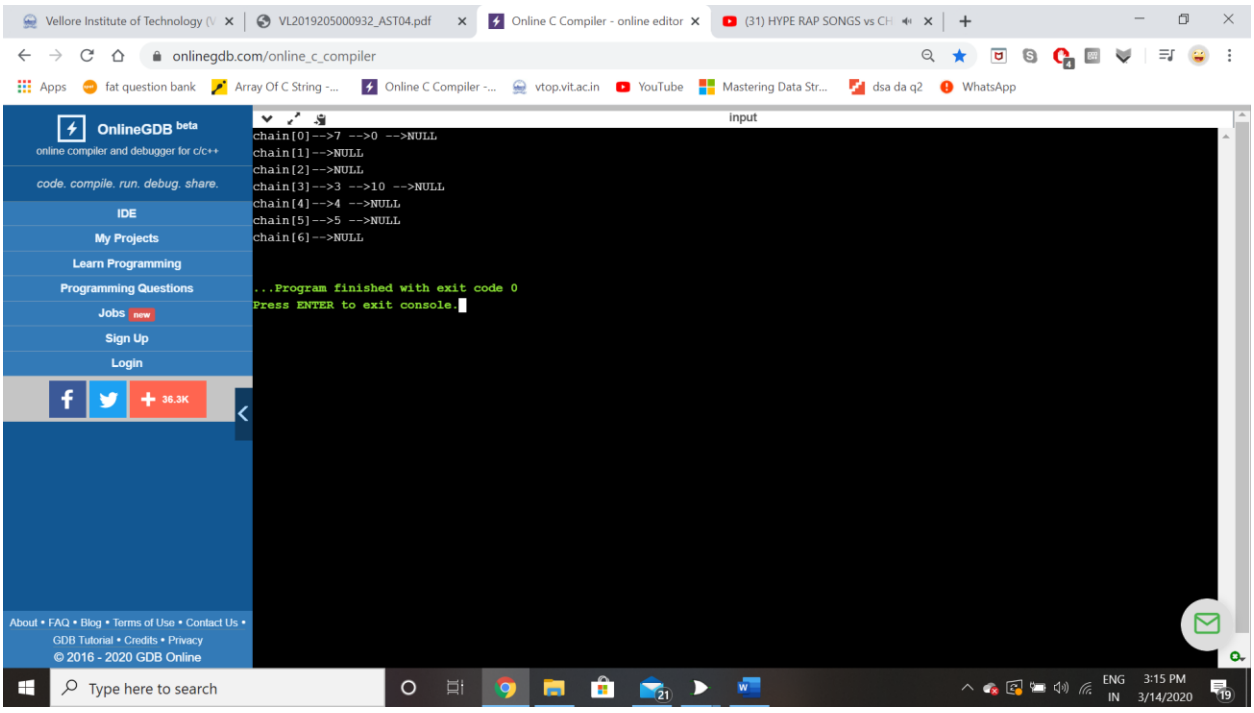


```c
#include<stdio.h>
#include<stdlib.h>
#define size 7
struct node
{
    int data;
    struct node *next;
};
struct node *chain[size];
void init()
{
    int i;
    for(i = 0; i < size; i++)
        chain[i] = NULL;
}
void insert(int value)
{
    struct node *newNode = malloc(sizeof(struct node));
    newNode->data = value;
    newNode->next = NULL;
    int key = value % size;
    if(chain[key] == NULL)
        chain[key] = newNode;
    else
    {
        struct node *temp = chain[key];
        while(temp->next)
        {
            temp = temp->next;
        }
        temp->next = newNode;
    }
}
void print()
{
    int i;
    for(i = 0; i < size; i++)
    {
        struct node *temp = chain[i];
        printf("chain[%d]-->",i);
        while(temp)
        {
            printf("%d -->",temp->data);
            temp = temp->next;
        }
        printf("NULL\n");
    }
}
int main()
{
    init();
    insert(7);
    insert(0);
    insert(3);
    insert(10);
    insert(4);
    insert(5);
    print();
    return 0;
}
```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input
chain[0]-->7 -->0 -->NULL
chain[1]-->NULL
chain[2]-->NULL
chain[3]-->3 -->10 -->NULL
chain[4]-->4 -->NULL
chain[5]-->5 -->NULL
chain[6]-->NULL
...Program finished with exit code 0
Press ENTER to exit console.
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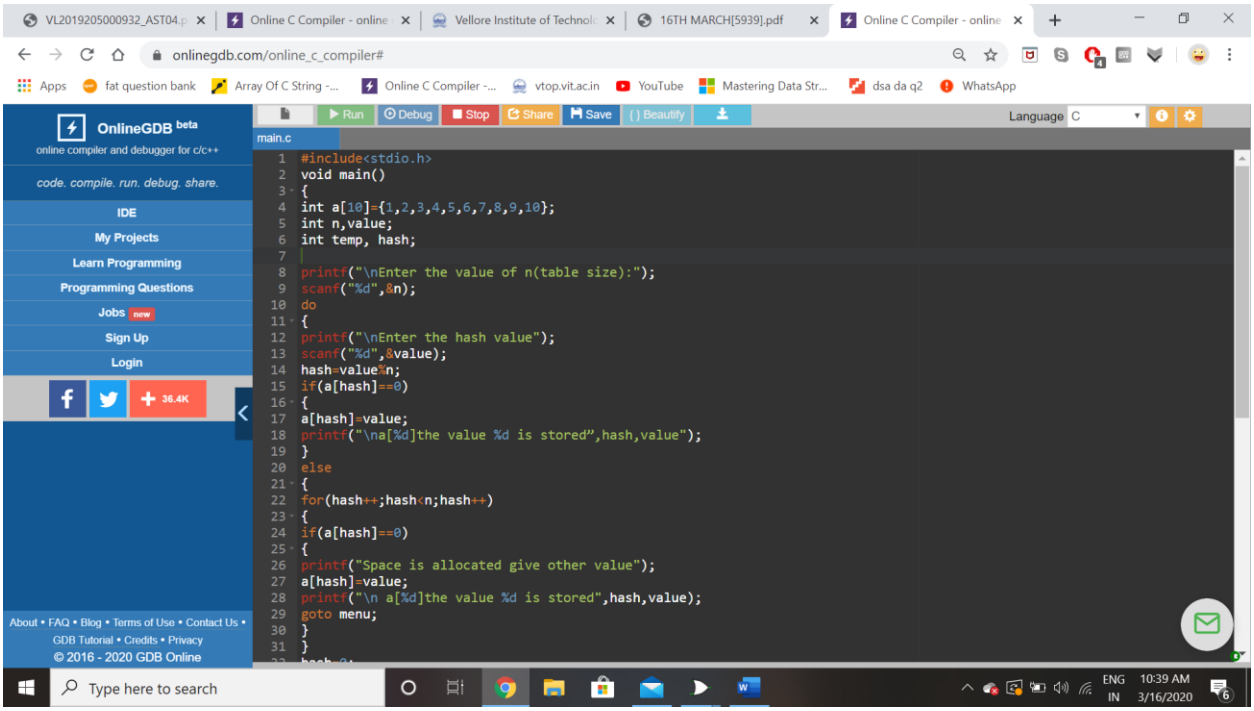
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{ } Beautify
Language C
main.c
#include<stdio.h>
void main()
{
int a[10]={1,2,3,4,5,6,7,8,9,10};
int n,value;
int temp, hash;
printf("\nEnter the value of n(table size):");
scanf("%d",&n);
do
{
printf("\nEnter the hash value");
scanf("%d",&value);
hash=value%n;
if(a[hash]==0)
{
a[hash]=value;
printf("\na[%d]the value %d is stored",hash,value");
}
else
{
for(hash++;hash<n;hash++)
{
if(a[hash]==0)
{
printf("Space is allocated give other value");
a[hash]=value;
printf("\n a[%d]the value %d is stored",hash,value);
goto menu;
}
}
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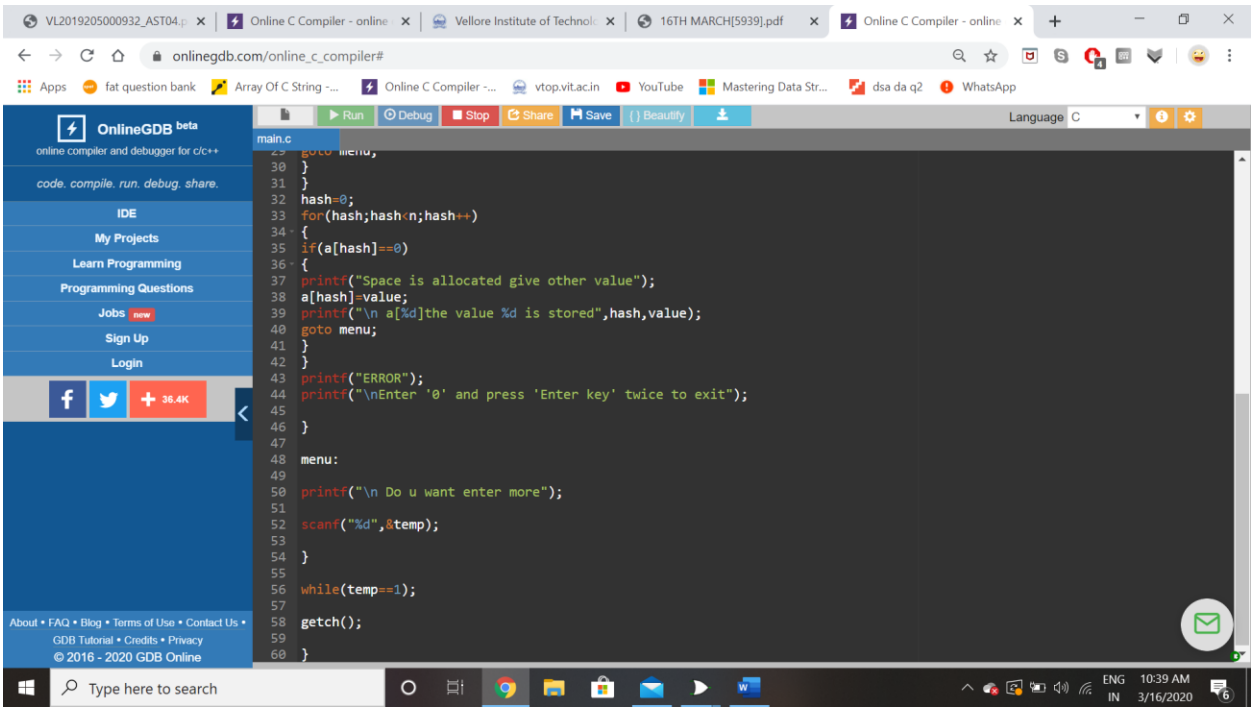
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Language C
main.c
}
}
hash=0;
for(hash;hash<n;hash++)
{
if(a[hash]==0)
{
printf("Space is allocated give other value");
a[hash]=value;
printf("\n a[%d]the value %d is stored",hash,value);
goto menu;
}
}
printf("ERROR");
printf("\nEnter '0' and press 'Enter key' twice to exit");
}
menu:
printf("\n Do u want enter more");
scanf("%d",&temp);
}
while(temp==1);
getch();
}
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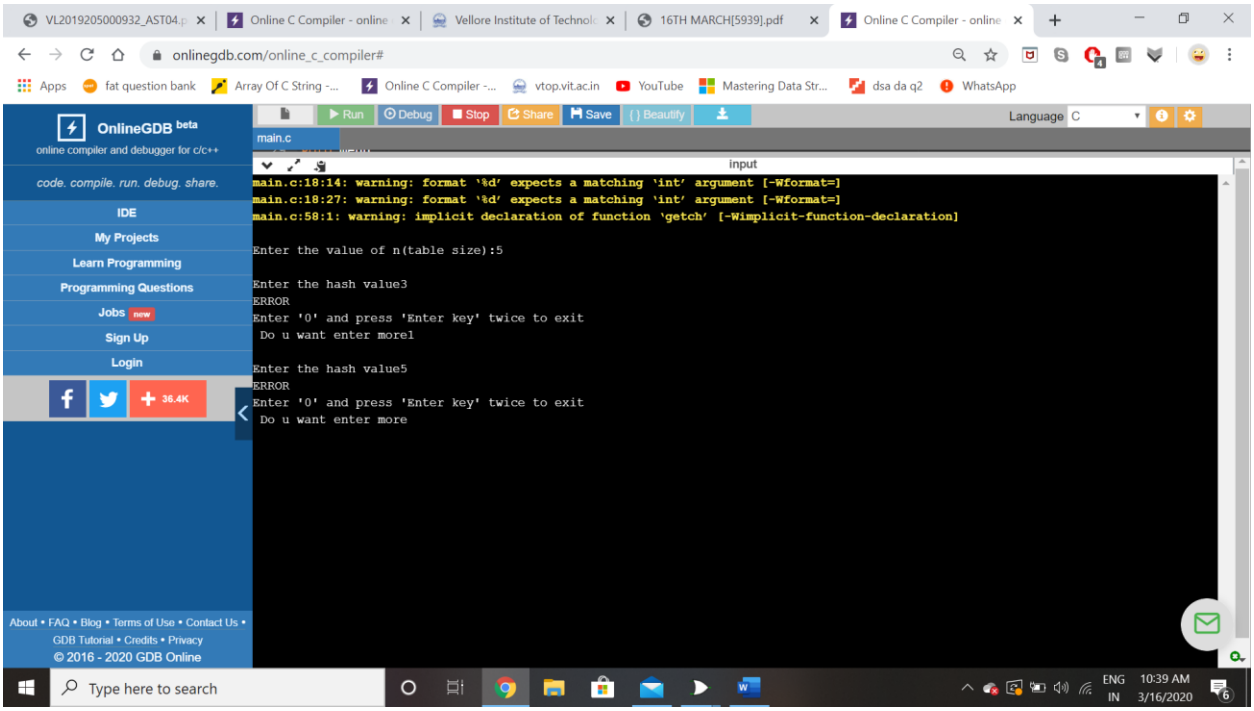
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Language C
main.c
input
main.c:18:14: warning: format '%d' expects a matching 'int' argument [-Wformat=]
main.c:18:27: warning: format '%d' expects a matching 'int' argument [-Wformat=]
main.c:58:1: warning: implicit declaration of function 'getch' [-Wimplicit-function-declaration]
Enter the value of n(table size):5
Enter the hash value3
ERROR
Enter '0' and press 'Enter key' twice to exit
Do u want enter more1
Enter the hash value5
ERROR
Enter '0' and press 'Enter key' twice to exit
Do u want enter more
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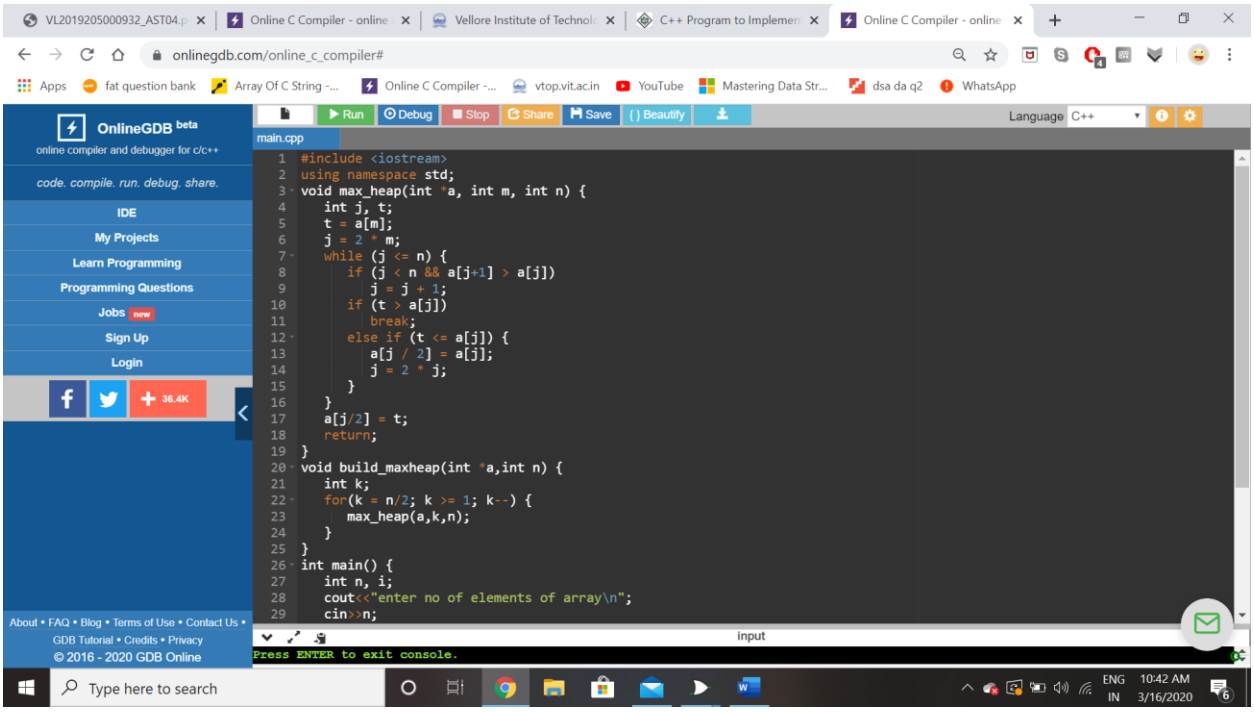
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{ } Beautify
Language C++
main.cpp
#include <iostream>
using namespace std;
void max_heap(int *a, int m, int n) {
int j, t;
t = a[m];
j = 2 * m;
while (j <= n) {
if (j < n && a[j+1] > a[j])
j = j + 1;
if (t > a[j])
break;
else if (t <= a[j]) {
a[j / 2] = a[j];
j = 2 * j;
}
}
a[j/2] = t;
return;
}
void build_maxheap(int *a,int n) {
int k;
for(k = n/2; k >= 1; k--) {
max_heap(a,k,n);
}
}
int main() {
int n, i;
cout<<"enter no of elements of array\n";
cin>>n;
input
Press ENTER to exit console.
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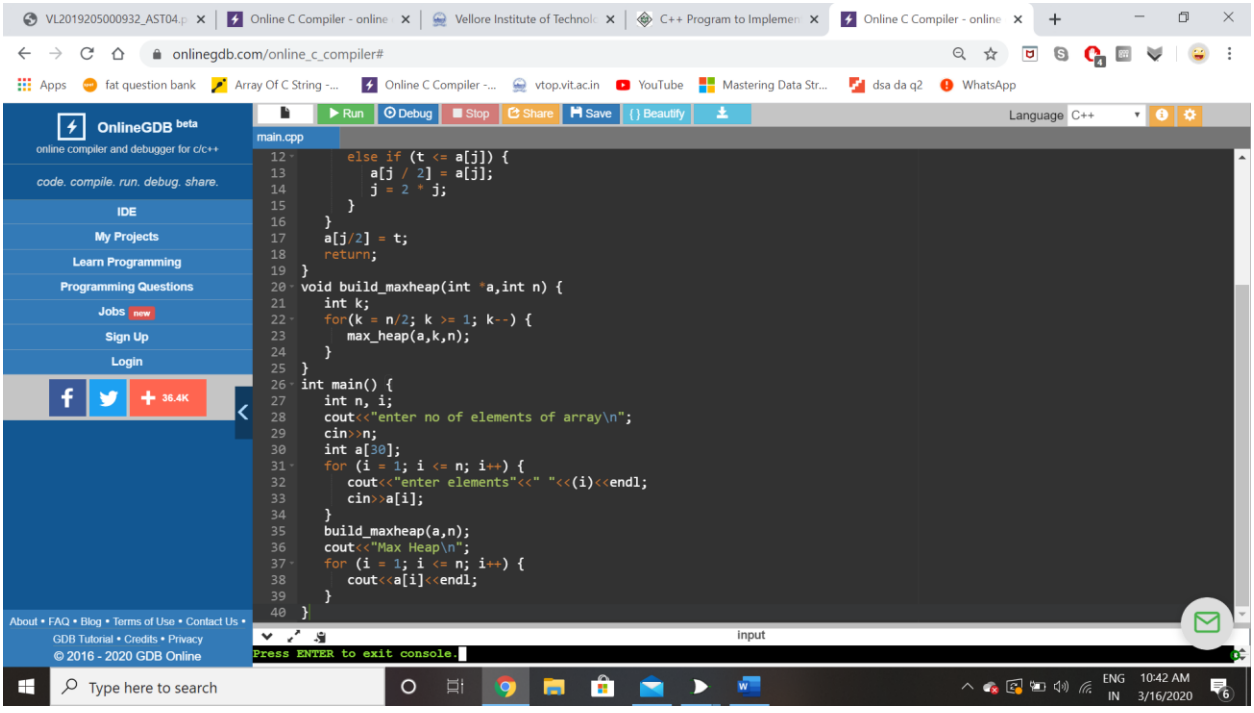
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Language C++
main.cpp
else if (t <= a[j]) {
a[j / 2] = a[j];
j = 2 * j;
}
}
a[j/2] = t;
return;
}
void build_maxheap(int *a,int n) {
int k;
for(k = n/2; k >= 1; k--) {
max_heap(a,k,n);
}
}
int main() {
int n, i;
cout<<"enter no of elements of array\n";
cin>>n;
int a[30];
for (i = 1; i <= n; i++) {
cout<<"enter elements"<<" "<<(i)<<endl;
cin>>a[i];
}
build_maxheap(a,n);
cout<<"Max Heap\n";
for (i = 1; i <= n; i++) {
cout<<a[i]<<endl;
}
}
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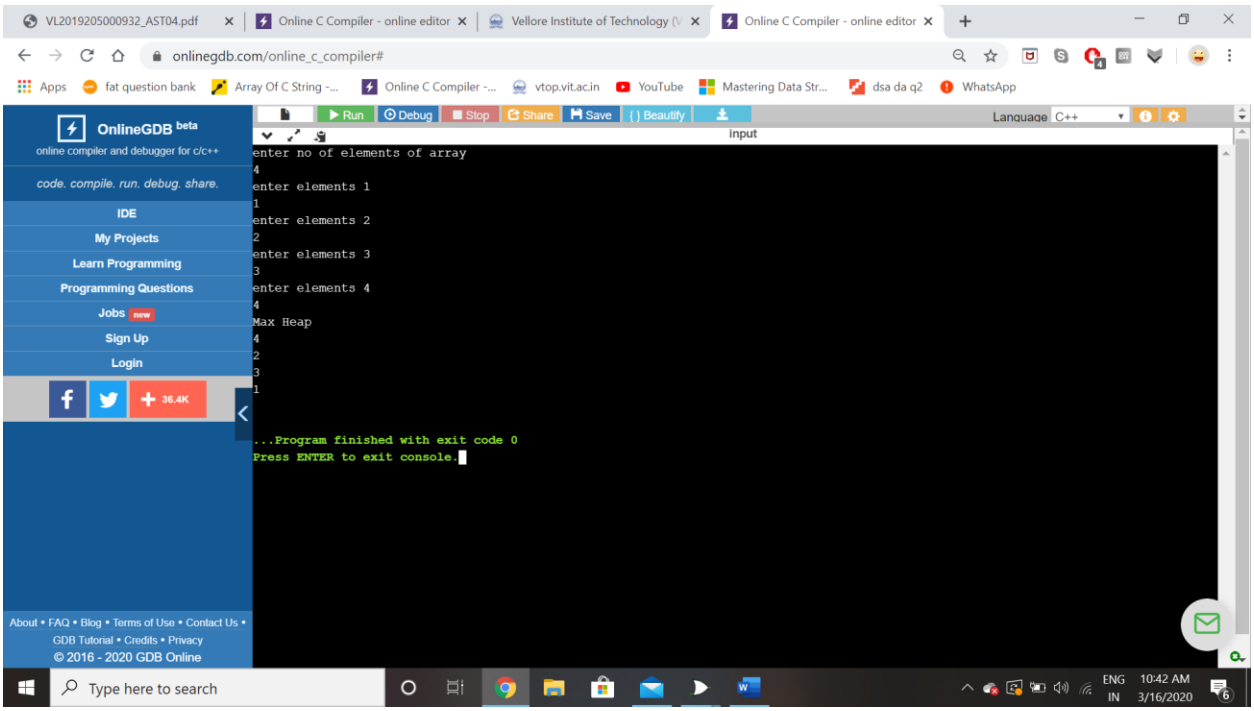
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Language C++
input
enter no of elements of array
4
enter elements 1
1
enter elements 2
2
enter elements 3
3
enter elements 4
4
Max Heap
4
2
3
1
...Program finished with exit code 0
Press ENTER to exit console.
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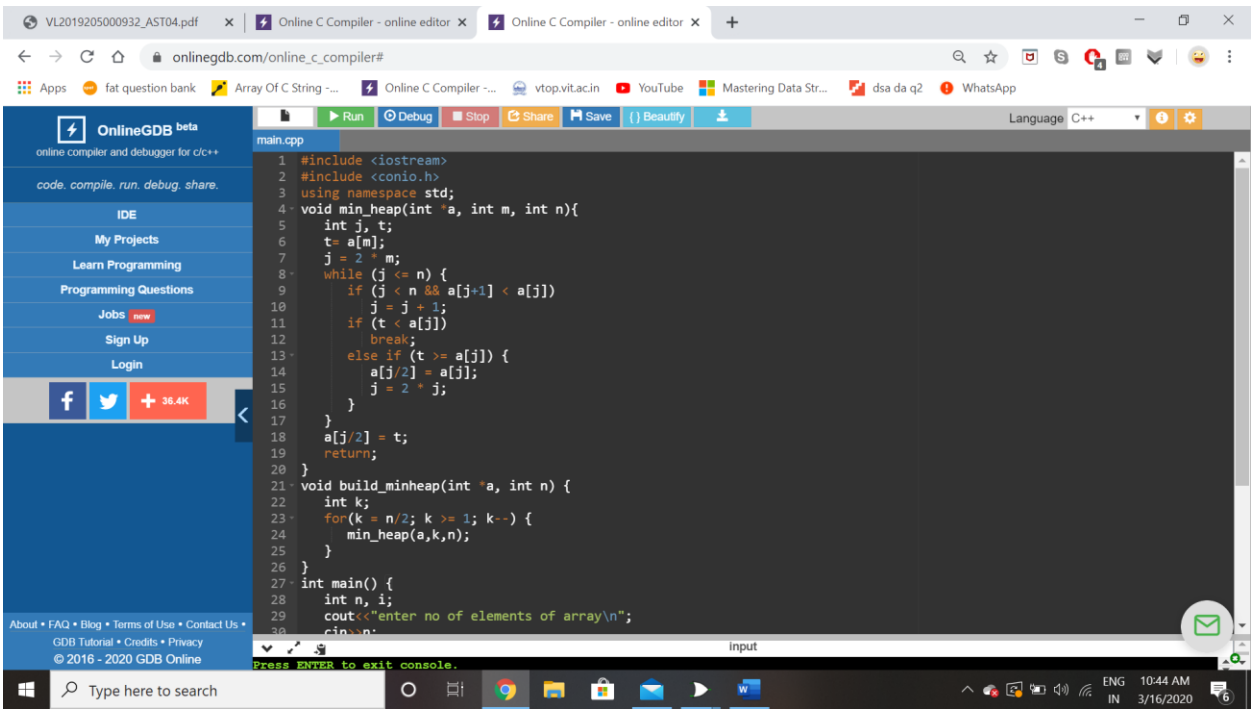
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Language C++
main.cpp
#include <iostream>
#include <conio.h>
using namespace std;
void min_heap(int *a, int m, int n){
int j, t;
t= a[m];
j = 2 * m;
while (j <= n) {
if (j < n && a[j+1] < a[j])
j = j + 1;
if (t < a[j])
break;
else if (t >= a[j]) {
a[j/2] = a[j];
j = 2 * j;
}
}
a[j/2] = t;
return;
}
void build_minheap(int *a, int n) {
int k;
for(k = n/2; k >= 1; k--) {
min_heap(a,k,n);
}
}
int main() {
int n, i;
cout<<"enter no of elements of array\n";
input
Press ENTER to exit console.
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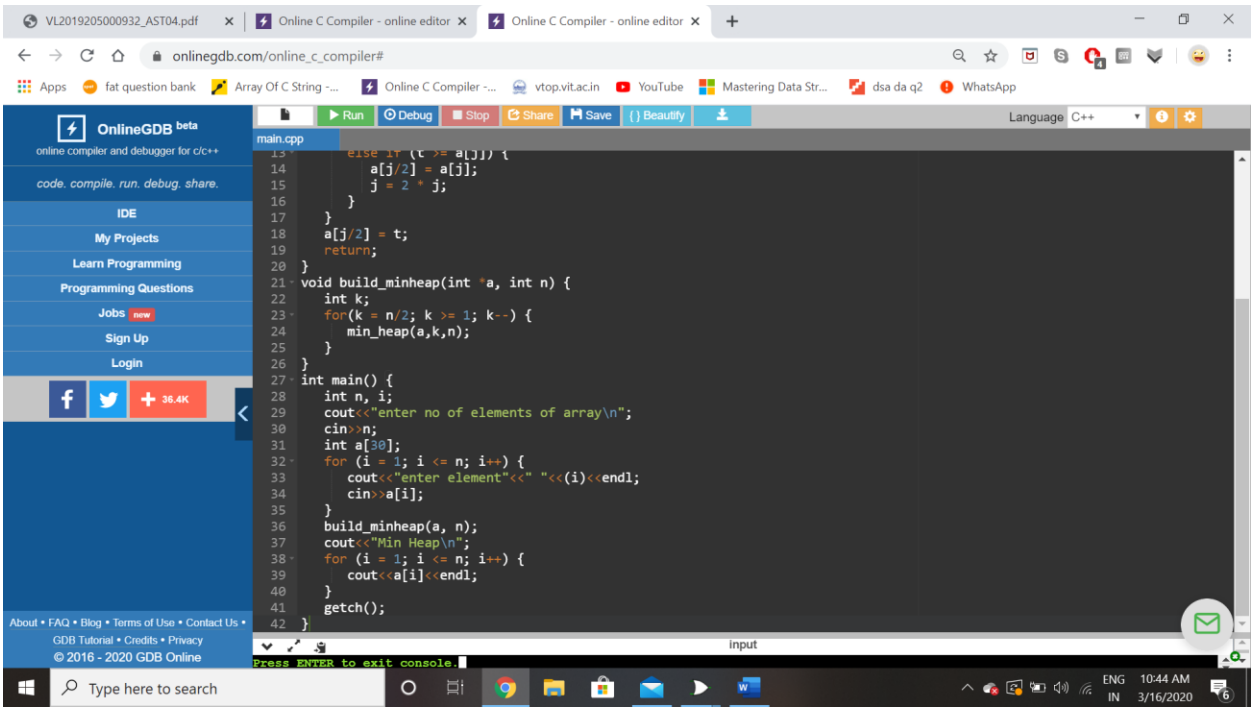
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Language C++
main.cpp
else if (t >= a[j]) {
a[j/2] = a[j];
j = 2 * j;
}
}
a[j/2] = t;
return;
}
void build_minheap(int *a, int n) {
int k;
for(k = n/2; k >= 1; k--) {
min_heap(a,k,n);
}
}
int main() {
int n, i;
cout<<"enter no of elements of array\n";
cin>>n;
int a[30];
for (i = 1; i <= n; i++) {
cout<<"enter element"<<" "<<(i)<<endl;
cin>>a[i];
}
build_minheap(a, n);
cout<<"Min Heap\n";
for (i = 1; i <= n; i++) {
cout<<a[i]<<endl;
}
getch();
}
input
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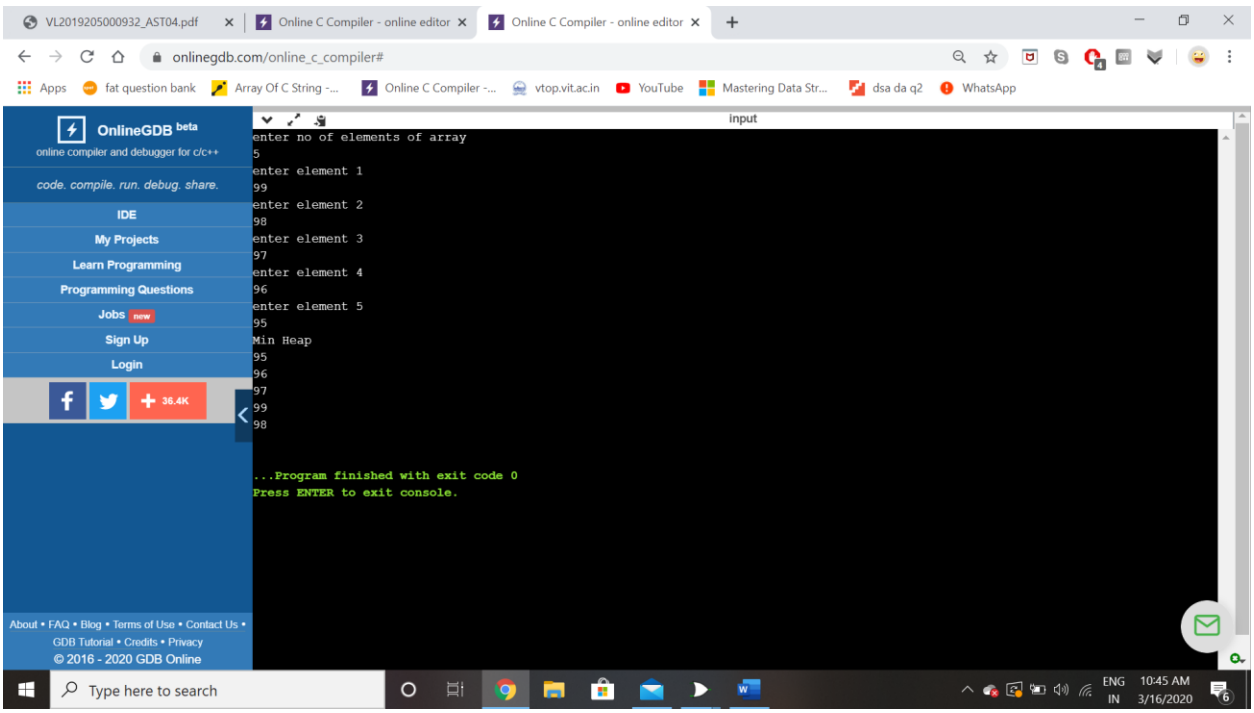
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input
enter no of elements of array
5
enter element 1
99
enter element 2
98
enter element 3
97
enter element 4
96
enter element 5
95
Min Heap
95
96
97
99
98
...Program finished with exit code 0
Press ENTER to exit console.
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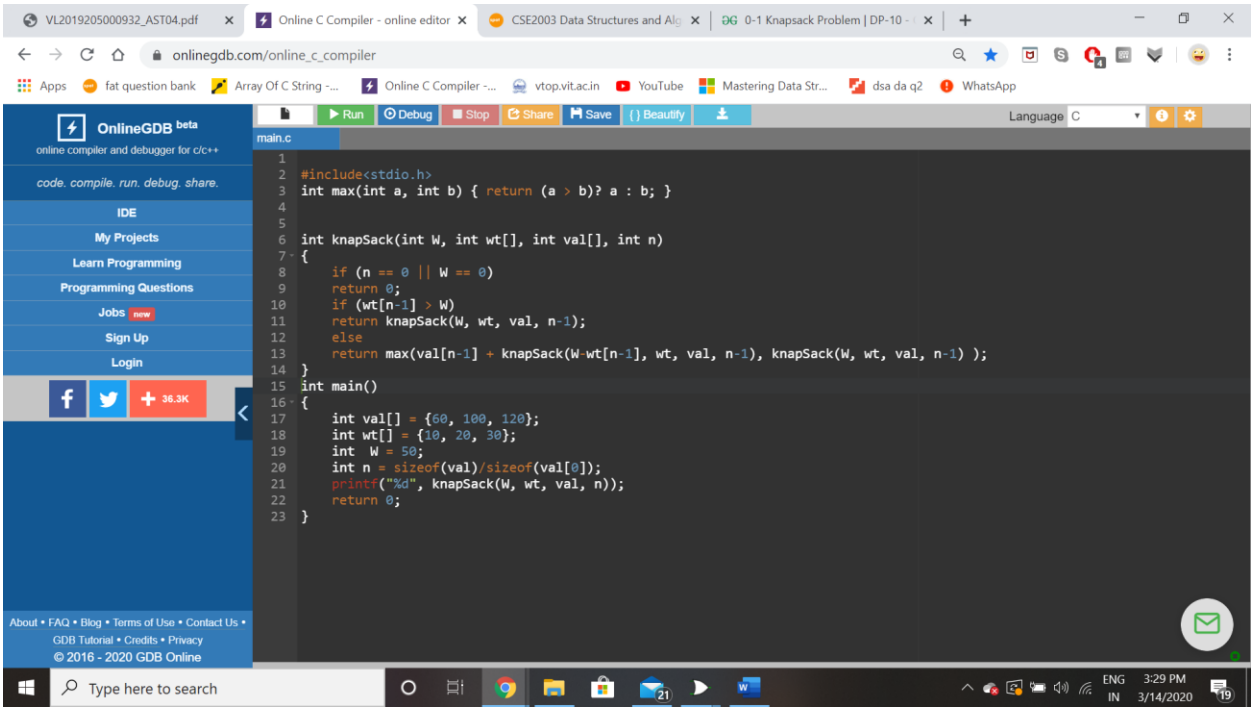
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{ } Beautify
Language C
main.c
#include<stdio.h>
int max(int a, int b) { return (a > b)? a : b; }
int knapSack(int W, int wt[], int val[], int n)
{
if (n == 0 || W == 0)
return 0;
if (wt[n-1] > W)
return knapSack(W, wt, val, n-1);
else
return max(val[n-1] + knapSack(W-wt[n-1], wt, val, n-1), knapSack(W, wt, val, n-1));
}
int main()
{
int val[] = {60, 100, 120};
int wt[] = {10, 20, 30};
int W = 50;
int n = sizeof(val)/sizeof(val[0]);
printf("%d", knapSack(W, wt, val, n));
return 0;
}
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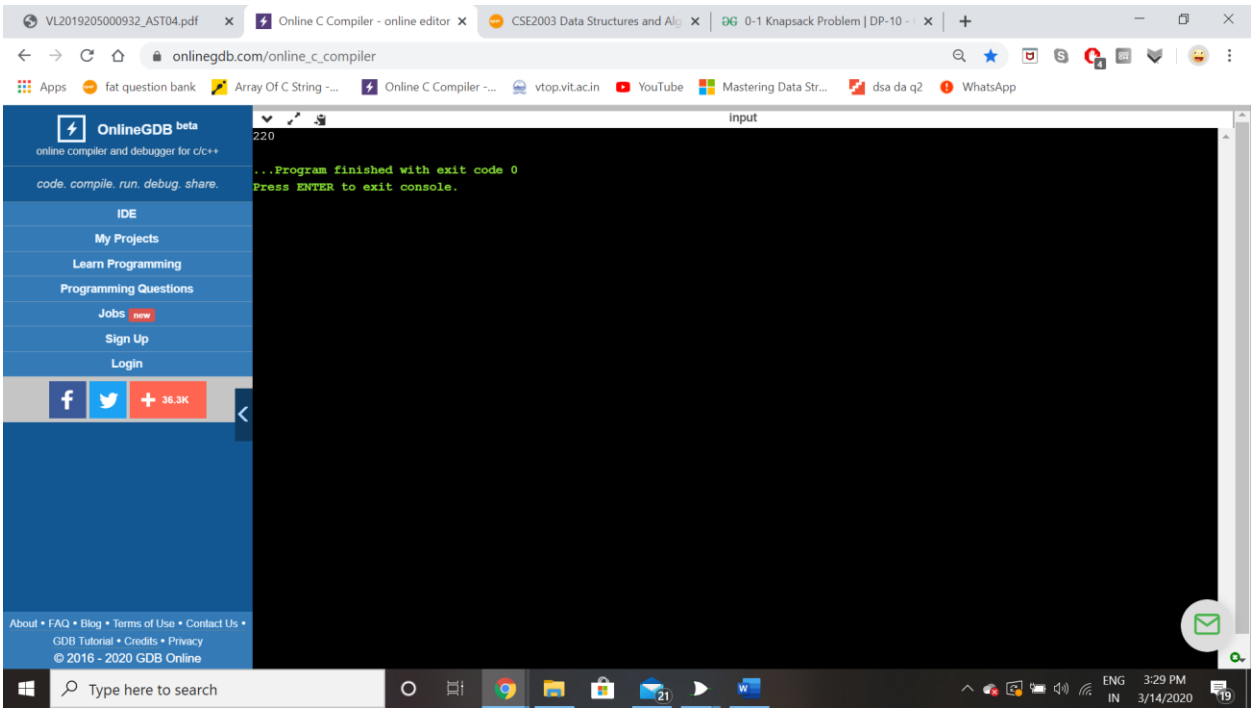
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