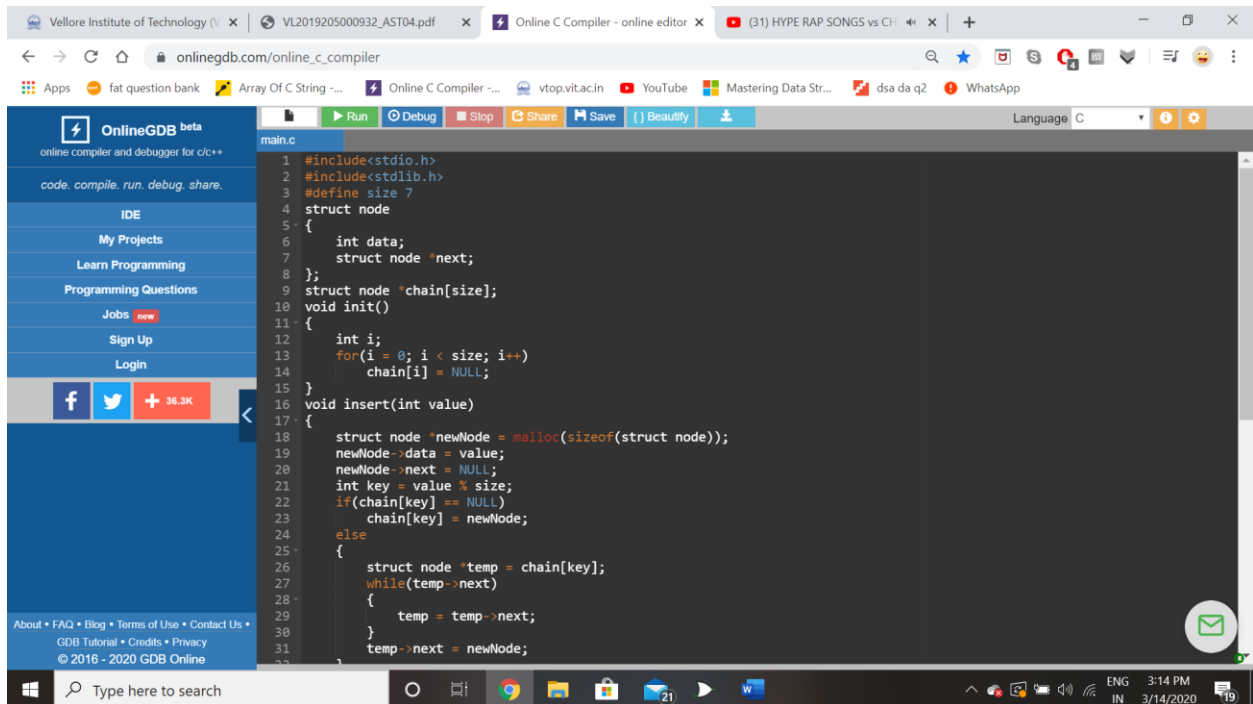


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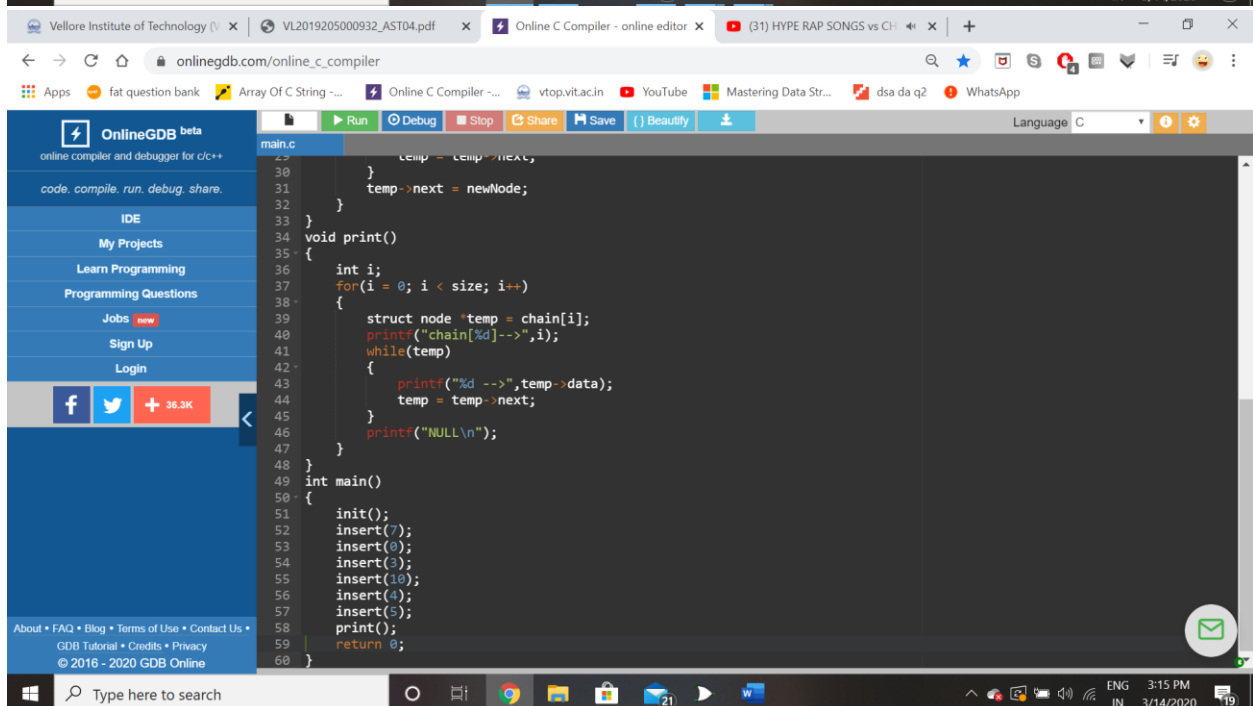
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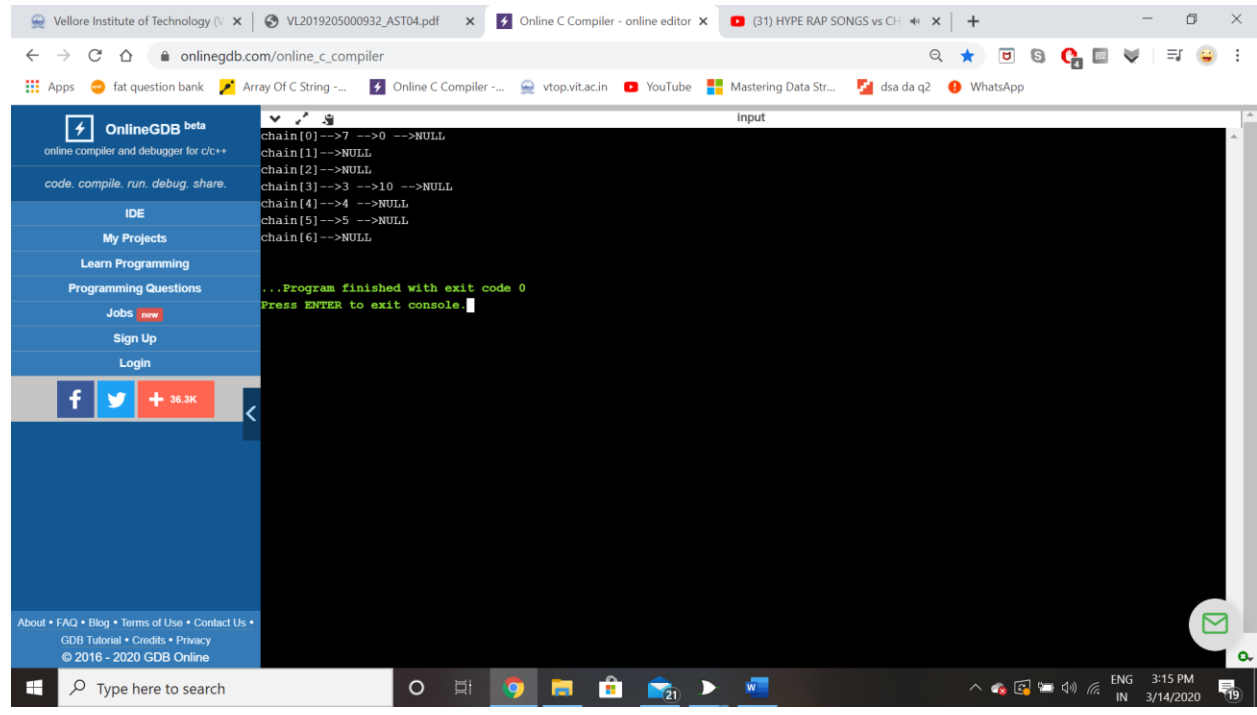
The screenshot shows the OnlineGDB website interface. The left sidebar contains navigation links like 'IDE', 'My Projects', 'Learn Programming', 'Programming Questions', 'Jobs', 'Sign Up', and 'Login'. The main editor area displays the following C code:

```
1 #include<stdio.h>
2 #include<stdlib.h>
3 #define size 7
4 struct node
5 {
6     int data;
7     struct node *next;
8 };
9 struct node *chain[size];
10 void init()
11 {
12     int i;
13     for(i = 0; i < size; i++)
14         chain[i] = NULL;
15 }
16 void insert(int value)
17 {
18     struct node *newNode = malloc(sizeof(struct node));
19     newNode->data = value;
20     newNode->next = NULL;
21     int key = value % size;
22     if(chain[key] == NULL)
23         chain[key] = newNode;
24     else
25     {
26         struct node *temp = chain[key];
27         while(temp->next)
28         {
29             temp = temp->next;
30         }
31         temp->next = newNode;
32     }
```

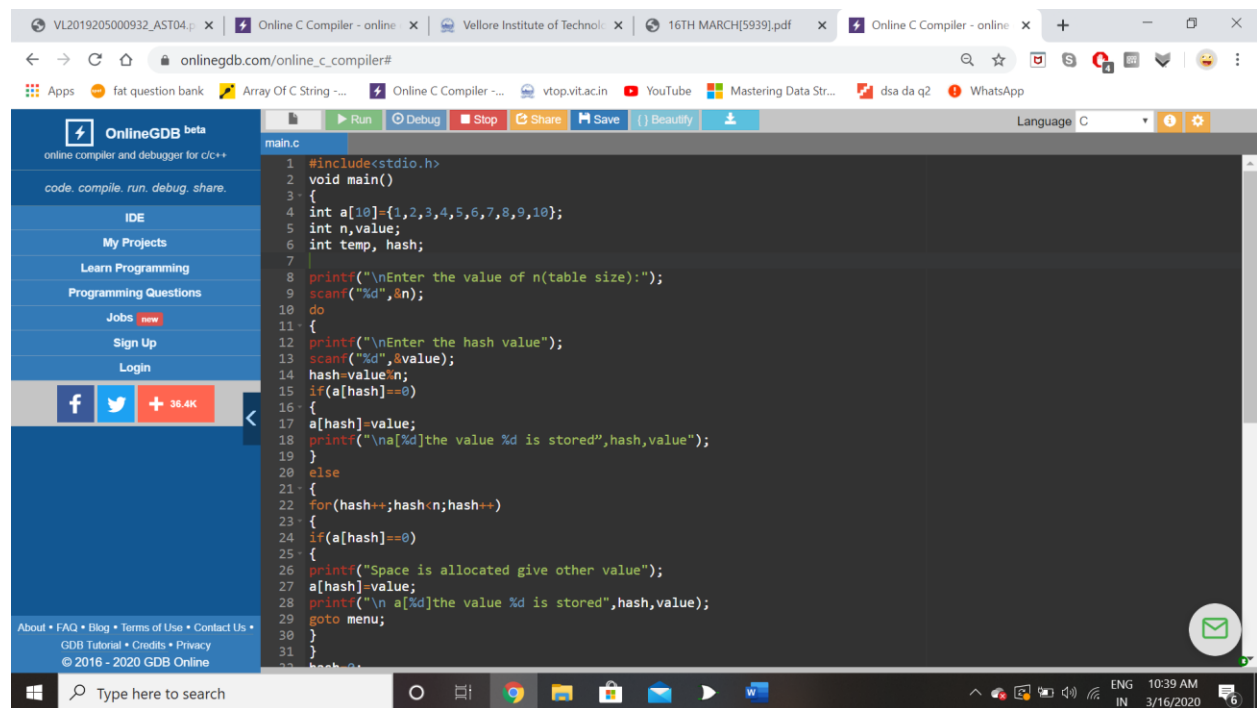


The screenshot shows the continuation of the C code in the OnlineGDB editor. The code includes a print function and a main function that tests the insert and print functions.

```
33     temp = temp->next;
34     temp->next = newNode;
35 }
36 void print()
37 {
38     int i;
39     for(i = 0; i < size; i++)
40     {
41         struct node *temp = chain[i];
42         printf("chain[%d]-->", i);
43         while(temp)
44         {
45             printf("%d -->", temp->data);
46             temp = temp->next;
47         }
48         printf("NULL\n");
49     }
50 }
51 int main()
52 {
53     init();
54     insert(7);
55     insert(0);
56     insert(3);
57     insert(10);
58     insert(4);
59     insert(5);
60     print();
61     return 0;
62 }
```



2>



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```
main.c
29 goto menu;
30 }
31 }
32 hash=0;
33 for(hash;hash<n;hash++)
34 {
35 if(a[hash]==0)
36 {
37 printf("Space is allocated give other value");
38 a[hash]=value;
39 printf("\n a[%d]the value %d is stored",hash,value);
40 goto menu;
41 }
42 }
43 printf("ERROR");
44 printf("\nEnter '0' and press 'Enter key' twice to exit");
45 }
46 }
47
48 menu:
49
50 printf("\n Do u want enter more");
51
52 scanf("%d",&temp);
53
54 }
55
56 while(temp==1);
57
58 getch();
59
60 }
```

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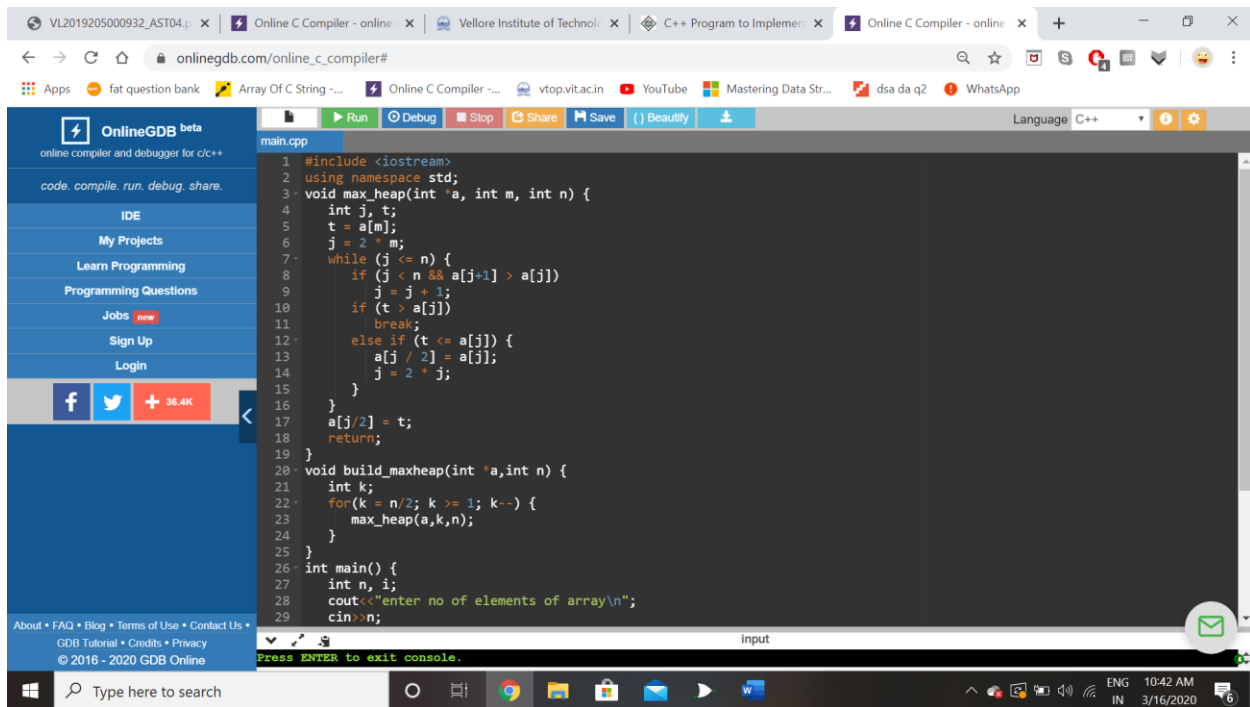
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```
main.c
main.c:18:14: warning: format '%d' expects a matching 'int' argument [-Wformat=]
main.c:18:27: warning: format '%d' expects a matching 'int' argument [-Wformat=]
main.c:58:1: warning: implicit declaration of function 'getch' [-Wimplicit-function-declaration]

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
```

Windows taskbar: Type here to search, O, [taskbar icons], ENG IN 10:39 AM 3/16/2020

3>



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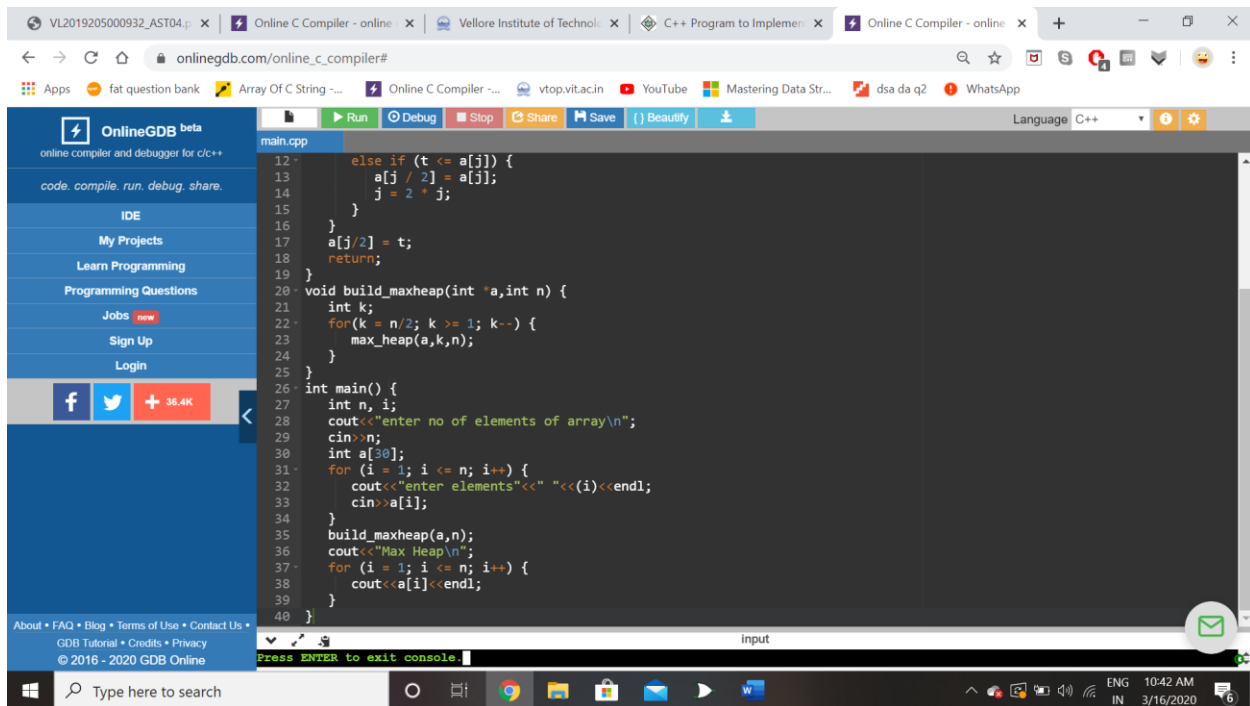
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```
main.cpp
1 #include <iostream>
2 using namespace std;
3 void max_heap(int *a, int m, int n) {
4     int j, t;
5     t = a[m];
6     j = 2 * m;
7     while (j <= n) {
8         if (j < n && a[j+1] > a[j])
9             j = j + 1;
10        if (t > a[j])
11            break;
12        else if (t <= a[j]) {
13            a[j / 2] = a[j];
14            j = 2 * j;
15        }
16    }
17    a[j / 2] = t;
18    return;
19 }
20 void build_maxheap(int *a, int n) {
21     int k;
22     for(k = n / 2; k >= 1; k--) {
23         max_heap(a, k, n);
24     }
25 }
26 int main() {
27     int n, i;
28     cout<<"enter no of elements of array\n";
29     cin>>n;
```

input  
Press ENTER to exit console.

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```
main.cpp
12     else if (t <= a[j]) {
13         a[j / 2] = a[j];
14         j = 2 * j;
15     }
16 }
17 a[j / 2] = t;
18 return;
19 }
20 void build_maxheap(int *a, int n) {
21     int k;
22     for(k = n / 2; k >= 1; k--) {
23         max_heap(a, k, n);
24     }
25 }
26 int main() {
27     int n, i;
28     cout<<"enter no of elements of array\n";
29     cin>>n;
30     int a[30];
31     for (i = 1; i <= n; i++) {
32         cout<<"enter elements"<<" "<<i<<endl;
33         cin>>a[i];
34     }
35     build_maxheap(a, n);
36     cout<<"Max Heap\n";
37     for (i = 1; i <= n; i++) {
38         cout<<a[i]<<endl;
39     }
40 }
```

input  
Press ENTER to exit console.

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Run Debug Stop Share Save () Beautify 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.
```

Type here to search

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main.cpp Run Debug Stop Share Save () Beautify Language C++

```
1 #include <iostream>
2 #include <conio.h>
3 using namespace std;
4 void min_heap(int *a, int m, int n){
5     int j, t;
6     t = a[m];
7     j = 2 * m;
8     while (j <= n) {
9         if (j < n && a[j+1] < a[j])
10             j = j + 1;
11         if (t < a[j])
12             break;
13         else if (t >= a[j]) {
14             a[j/2] = a[j];
15             j = 2 * j;
16         }
17     }
18     a[j/2] = t;
19     return;
20 }
21 void build_minheap(int *a, int n) {
22     int k;
23     for(k = n/2; k >= 1; k--) {
24         min_heap(a, k, n);
25     }
26 }
27 int main() {
28     int n, i;
29     cout<<"enter no of elements of array\n";
30     cin>>n;
```

Input

Press ENTER to exit console.

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main.cpp

```
13     else if (t >= a[j]) {
14         a[j/2] = a[j];
15         j = 2 * j;
16     }
17 }
18 a[j/2] = t;
19 return;
20 }
21 void build_minheap(int *a, int n) {
22     int k;
23     for(k = n/2; k >= 1; k--) {
24         min_heap(a,k,n);
25     }
26 }
27 int main() {
28     int n, i;
29     cout<<"enter no of elements of array\n";
30     cin>>n;
31     int a[30];
32     for (i = 1; i <= n; i++) {
33         cout<<"enter element"<<" "<<i<<endl;
34         cin>>a[i];
35     }
36     build_minheap(a, n);
37     cout<<"Min Heap\n";
38     for (i = 1; i <= n; i++) {
39         cout<<a[i]<<endl;
40     }
41     getch();
42 }
```

input

Press ENTER to exit console.

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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
98

...Program finished with exit code 0
Press ENTER to exit console.
```

Type here to search

ENG 10:45 AM 3/16/2020

5>

The screenshot shows the OnlineGDB website interface. The left sidebar contains navigation links: "code. compile. run. debug. share.", "IDE", "My Projects", "Learn Programming", "Programming Questions", "Jobs", "Sign Up", and "Login". The main editor area displays a C program for a 0-1 Knapsack problem. The code includes a recursive function `knapsack` and a `main` function that initializes an array of values and weights, and prints the result of the knapsack function.

```
1 #include<stdio.h>
2 int max(int a, int b) { return (a > b)? a : b; }
3
4
5
6 int knapsack(int W, int wt[], int val[], int n)
7 {
8     if (n == 0 || W == 0)
9         return 0;
10    if (wt[n-1] > W)
11        return knapsack(W, wt, val, n-1);
12    else
13        return max(val[n-1] + knapsack(W-wt[n-1], wt, val, n-1), knapsack(W, wt, val, n-1));
14 }
15
16 int main()
17 {
18     int val[] = {60, 100, 120};
19     int wt[] = {10, 20, 30};
20     int W = 50;
21     int n = sizeof(val)/sizeof(val[0]);
22     printf("%d", knapsack(W, wt, val, n));
23     return 0;
24 }
```

The screenshot shows the OnlineGDB website interface after the program has been executed. The main editor area displays the output of the program, which is "220". The status bar at the bottom indicates that the program finished with exit code 0.

```
220
...Program finished with exit code 0
Press ENTER to exit console.
```