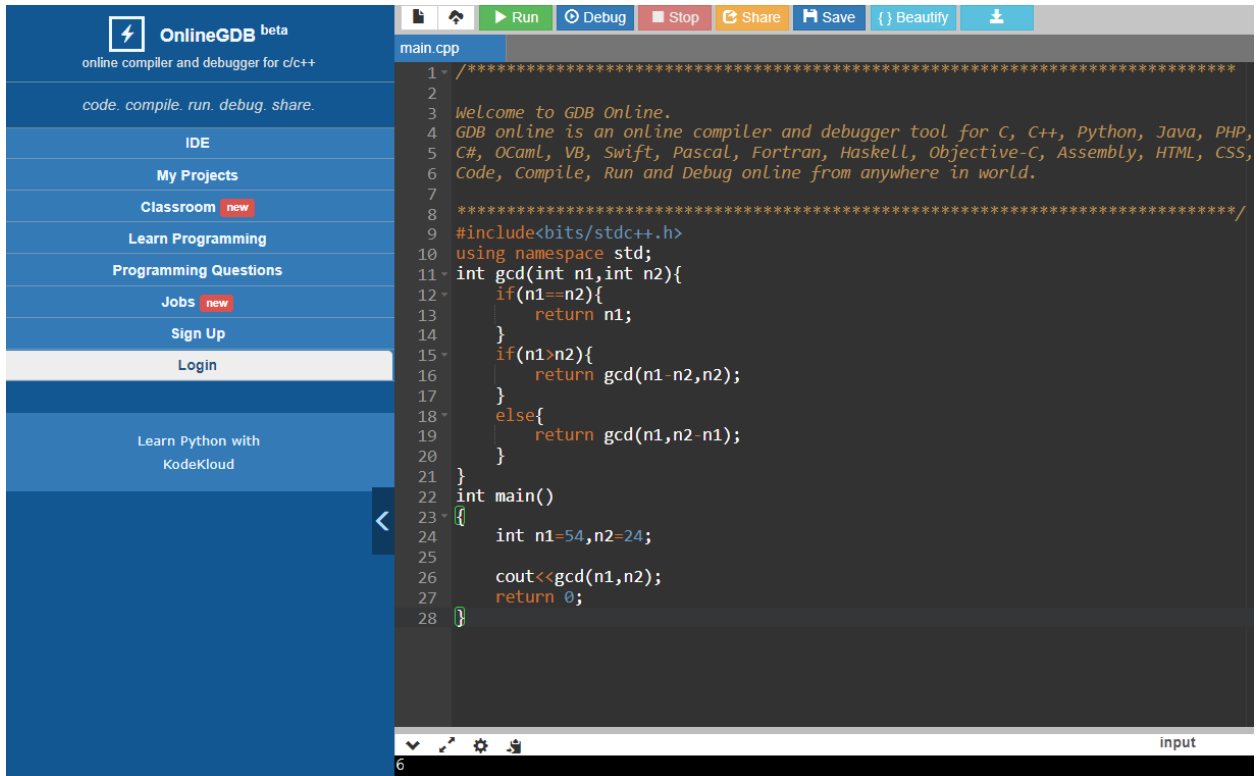


Assignment -1

GCD using Euclid's algorithm



The screenshot shows the OnlineGDB beta IDE interface. On the left is a sidebar with navigation links: IDE, My Projects, Classroom (new), Learn Programming, Programming Questions, Jobs (new), Sign Up, Login, and Learn Python with KodeKloud. The main editor area displays a C++ file named 'main.cpp' with the following code:

```
1 //*****
2
3 Welcome to GDB Online.
4 GDB online is an online compiler and debugger tool for C, C++, Python, Java, PHP,
5 C#, OCaml, VB, Swift, Pascal, Fortran, Haskell, Objective-C, Assembly, HTML, CSS,
6 Code, Compile, Run and Debug online from anywhere in world.
7
8 *****/
9 #include<bits/stdc++.h>
10 using namespace std;
11 int gcd(int n1,int n2){
12     if(n1==n2){
13         return n1;
14     }
15     if(n1>n2){
16         return gcd(n1-n2,n2);
17     }
18     else{
19         return gcd(n1,n2-n1);
20     }
21 }
22 int main()
23 {
24     int n1=54,n2=24;
25
26     cout<<gcd(n1,n2);
27     return 0;
28 }
```

At the bottom right, there is an 'input' field and a line number '6'.

2. Sum of all the subsets

```
main.cpp
5  C#, OCaml, VB, Swift, Pascal, Fortran, Haskell, Objective-C,
6  Code, Compile, Run and Debug online from anywhere in the
7
8  ****
9  #include<bits/stdc++.h>
10 using namespace std;
11 void subset(int arr[],int l,int r,int sum=0){
12     if(l>r){
13         cout<<sum<<" ";
14         return;
15     }
16     subset(arr,l+1,r,sum+arr[l]);
17     subset(arr,l+1,r,sum);
18 }
19 int main()
20 {
21     int n;
22     cin>>n;
23     int arr[n];
24     for(int i=0;i<n;i++){
25         cin>>arr[i];
26     }
27     subset(arr,0,n-1);
28 }
```

2
2 3
5 2 3 0

3. Decimal to Binary

The screenshot shows an online C++ compiler interface. At the top, there is a toolbar with buttons for Run, Debug, Stop, Share, Save, and Beautify. Below the toolbar, the file name 'main.cpp' is displayed. The code is as follows:

```
1  /*****
2
3  Welcome to GDB Online.
4  GDB online is an online compiler and debugger tool for
5  C#, OCaml, VB, Swift, Pascal, Fortran, Haskell, Objective-C,
6  C, C++, Java, JavaScript, PHP, Python, Ruby, Rust, Swift, and
7  Kotlin.
8  *****/
9  #include<bits/stdc++.h>
10 using namespace std;
11 int main()
12 {
13     int num=33;
14     vector<int>ans;
15     int module;
16     while(num>0){
17         module=num%2;
18         ans.push_back(module);
19         num=num/2;
20     }
21     reverse(ans.begin(),ans.end());
22     for(int i=0;i<ans.size();i++){
23         cout<<ans[i];
24     }
25 }
```

At the bottom of the interface, there is a console area showing the output of the program: 100001.

4. Two sum

Run

Debug

Stop

Share

Save

Beautify

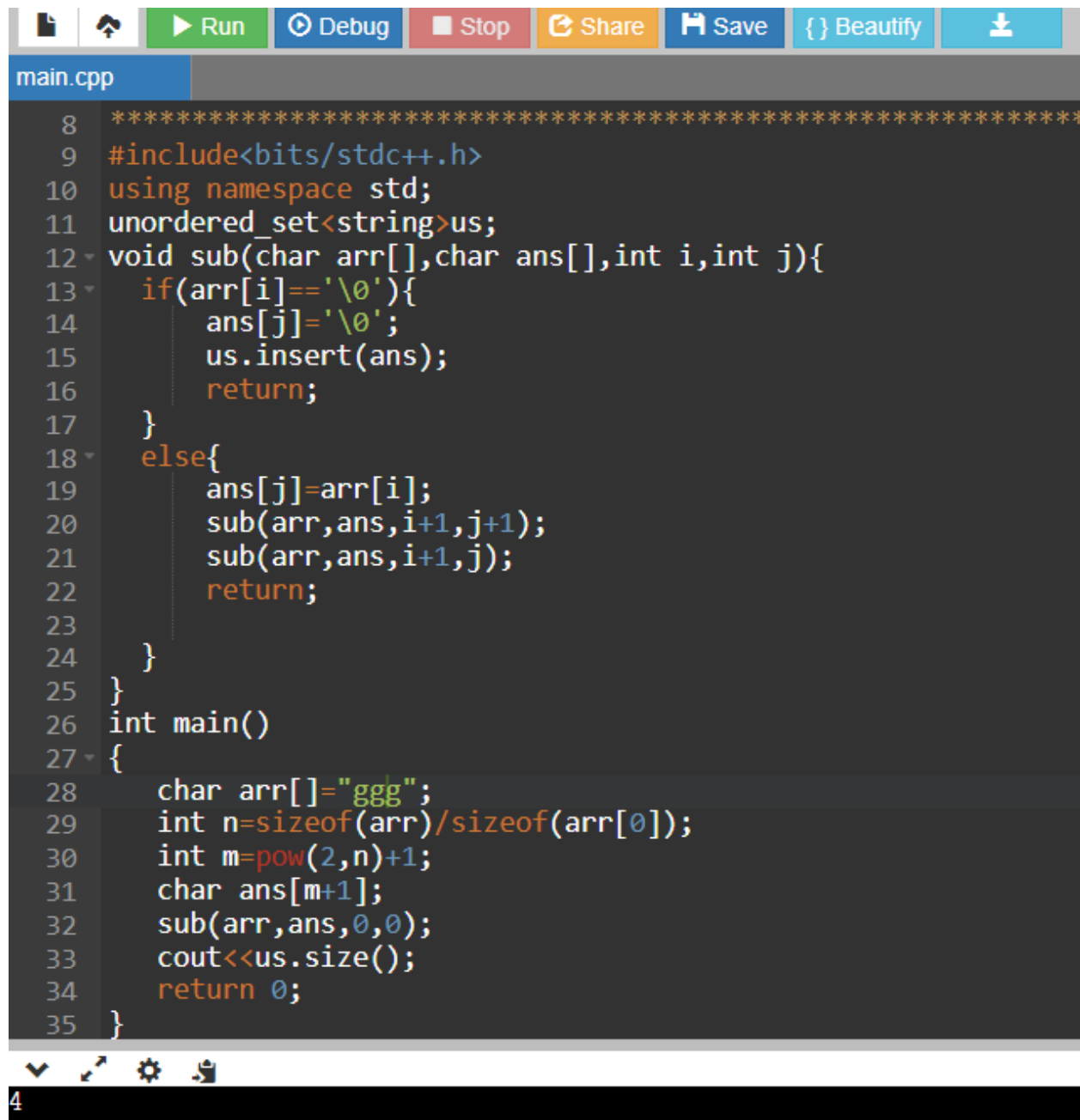
main.cpp

```
3  welcome to GDB Online.
4  GDB online is an online compiler and debugger tool for C, C++, Python, Java, PHP, Ruby, Perl,
5  C#, OCaml, VB, Swift, Pascal, Fortran, Haskell, Objective-C, Assembly, HTML, CSS, JS, SQLite, Prolog.
6  Code, Compile, Run and Debug online from anywhere in world.
7
8  *****/
9  #include<bits/stdc++.h>
10 using namespace std;
11 int main()
12 {
13     int n;
14     cin>>n;
15     int arr[n];
16     for(int i=0;i<n;i++){
17         cin>>arr[i];
18     }
19     int target;
20     cin>>target;
21     for(int i=0;i<n;i++){
22         for(int j=i+1;j<n;j++){
23             if(arr[i]+arr[j]==target){
24                 cout<<i<<" "<<j<<endl;
25                 break;
26             }
27         }
28     }
29 }
```

input

4
2 7 11 15
9
0 1

5 Count of distinct subsequence



```
8 *****
9 #include<bits/stdc++.h>
10 using namespace std;
11 unordered_set<string>us;
12 void sub(char arr[],char ans[],int i,int j){
13     if(arr[i]=='\0'){
14         ans[j]='\0';
15         us.insert(ans);
16         return;
17     }
18     else{
19         ans[j]=arr[i];
20         sub(arr,ans,i+1,j+1);
21         sub(arr,ans,i+1,j);
22         return;
23     }
24 }
25 }
26 int main()
27 {
28     char arr[]="ggg";
29     int n=sizeof(arr)/sizeof(arr[0]);
30     int m=pow(2,n)+1;
31     char ans[m+1];
32     sub(arr,ans,0,0);
33     cout<<us.size();
34     return 0;
35 }
```

4

6. Minimum distance between two given words

```
main.cpp
1 //
2
3 Welcome to GDB Online.
4 GDB online is an online compiler and debugger tool for C, C++, Python, Java, PHP,
5 C#, OCaml, VB, Swift, Pascal, Fortran, Haskell, Objective-C, Assembly, HTML, CSS,
6 Code, Compile, Run and Debug online from anywhere in world.
7
8 *****/
9 #include<bits/stdc++.h>
10 using namespace std;
11 int main()
12 {
13     vector<string>v{"the","quick","brown","fox","quick"};
14     string word1="the";
15     string word2="fox";
16     int ans=0;
17     for(int i=0;i<v.size();i++){
18         if(v[i]==word1){
19             for(int j=i+1;j<v.size();j++){
20                 if(v[j]==word2){
21                     ans=j-i;
22                 }
23             }
24         }
25     }
26     cout<<ans;
27 }
```

input

3

7 . Find the number of pairs of integers in the array whose sum is equal to the sum

```
3 welcome to GDB Online.
4 GDB online is an online compiler and debugger tool for C, C++, Python, Java, PHP, R,
5 C#, OCaml, VB, Swift, Pascal, Fortran, Haskell, Objective-C, Assembly, HTML, CSS, JavaScript,
6 Code, Compile, Run and Debug online from anywhere in world.
7
8 *****/
9 #include<bits/stdc++.h>
10 using namespace std;
11 int main()
12 {
13     int n;
14     cin>>n;
15     int arr[n];
16     for(int i=0;i<n;i++){
17         cin>>arr[i];
18     }
19     int target=6;
20     int c=0;
21     for(int i=0;i<n;i++){
22         for(int j=i+1;j<n;j++){
23             if(arr[i]+arr[j]==target){
24                 c++;
25             }
26         }
27     }
28     cout<<c;
29 }
```

input

```
4
1 5 7 -1
2
```

8. Maximum product sub array

```

2
3 Welcome to GDB Online.
4 GDB online is an online compiler and debugger tool for C, C++, Python, Java, PHP,
5 C#, OCaml, VB, Swift, Pascal, Fortran, Haskell, Objective-C, Assembly, HTML, CSS,
6 Code, Compile, Run and Debug online from anywhere in world.
7
8 *****
9 #include<bits/stdc++.h>
10 using namespace std;
11 int main()
12 {
13     int n;
14     cin>>n;
15     int arr[n];
16     for(int i=0;i<n;i++){
17         cin>>arr[i];
18     }
19     int ans=INT_MIN;
20     int product=1;
21     for(int i=0;i<n;i++){
22         product*=arr[i];
23         ans=max(ans,product);
24         if(arr[i]==0){
25             product=1;
26         }
27     }
28     cout<<ans;

```

input

```

5
-1 -3 -10 0 60
60

```