

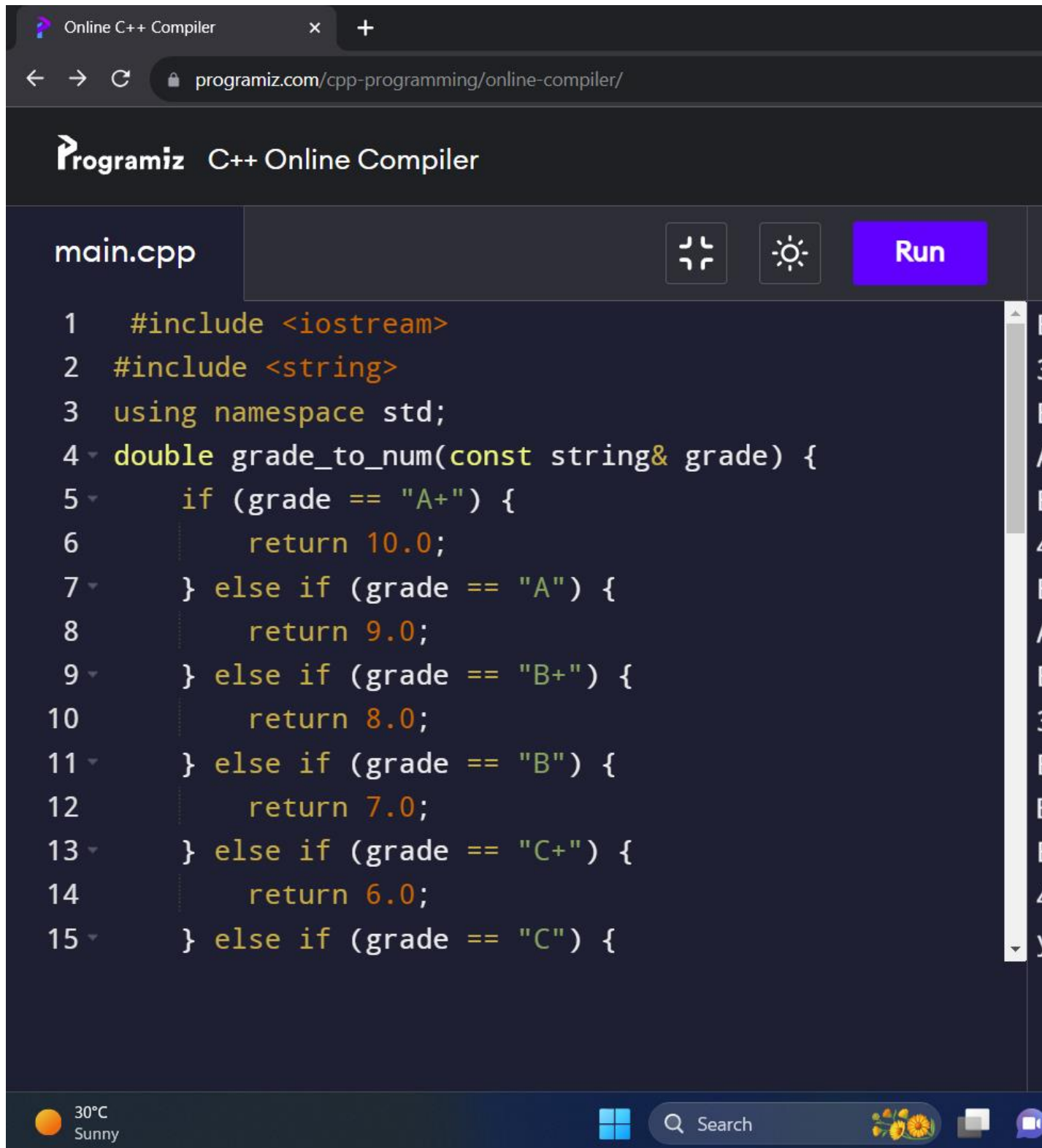
Practice sheet 4

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Electrical Engg.(EE4)

Ques1. Calculate CGPA from grades.



The screenshot shows a web browser window with the address bar displaying `programiz.com/cpp-programming/online-compiler/`. The page title is "Programiz C++ Online Compiler". The main area contains a code editor with a file named `main.cpp`. The code defines a function `grade_to_num` that maps letter grades to numerical values. The code is as follows:

```
1  #include <iostream>
2  #include <string>
3  using namespace std;
4  double grade_to_num(const string& grade) {
5      if (grade == "A+") {
6          return 10.0;
7      } else if (grade == "A") {
8          return 9.0;
9      } else if (grade == "B+") {
10         return 8.0;
11     } else if (grade == "B") {
12         return 7.0;
13     } else if (grade == "C+") {
14         return 6.0;
15     } else if (grade == "C") {
```



The interface includes a "Run" button and a settings icon. The bottom of the screen shows a Windows taskbar with a weather widget indicating 30°C Sunny, a search bar, and several application icons.

Online C++ Compiler

programiz.com/cpp-programming/online-compiler/

### Programiz C++ Online Compiler

main.cpp



Run

```
16         return 5.0;
17     } else if (grade == "D") {
18         return 4.0;
19     } else if (grade == "F") {
20         return 0.0;
21     } else {
22         return -1.0; // Return -1 for an invalid
                        grade
23     }}
24 int main(){int n;
25 cout<<"Enter the total no of subjects\n";
26 cin>>n;
27 double CGPA, sum=0,sumc=0;
28 for(int i=0;i<n;i++){string temp;
29     double credits;
```

Enter the total

3

Enter the grade

A

Enter the credits

4

Enter the grade

A

Enter the credits

3

Enter the grade

B

Enter the credits

4



your CGPA is: 8

Online C++ Compiler

programiz.com/cpp-programming/online-compiler/

### Programiz C++ Online Compiler

main.cpp



Run

```
29     double credits;
30     cout<<"Enter the grade in "<<i+1<<"th"<<"subject
        : "<<endl;
31     cin>>temp;
32     cout<<"Enter the credits in "<<i+1<<"th"
        <<"subject: "<<endl;
33     cin>>credits;
34     sumc+=credits;
35     sum+=(grade_to_num(temp)*credits);
36 }
37 CGPA=sum/sumc;
38 cout<<"your CGPA is: "<<CGPA;
39
40 return 0;
41 }
```

Enter the total

3

Enter the grade

A

Enter the credits

4

Enter the grade

A

Enter the credits

3

Enter the grade

B

Enter the credits

4

your CGPA is: 8

un

Output

Clear

ject

```
Enter the total no of subjects
3
Enter the grade in 1thsubject:
A
Enter the credits in 1thsubject:
4
Enter the grade in 2thsubject:
A
Enter the credits in 2thsubject:
3
Enter the grade in 3thsubject:
B
Enter the credits in 3thsubject:
4
your CGPA is: 8.27273
```

Ques2. Write 1-100 integers in a file named NAMES.TEXT .

```
main.cpp  [Icons] [Run]

1  #include <iostream>
2  #include <fstream>
3  #include <string>
4  using namespace std;
5  int main() {
6      ofstream file("notes.txt");
7      for(int i=1;i<=100;i++){
8          file<<i<<"\t"

Programiz C++ Online Compiler

main.cpp  [Icons] [Run]

8          file<<i<<"\t";
9          if(i%10==0){
10             file<<"\n";
11         }
12     }
13     file.close();
14     ifstream inf("notes.txt");
15     while(inf){
16         string a;
17         getline(inf,a);
18         cout<<a<<"\n";
19     }
20
21     return 0;
22 }
```

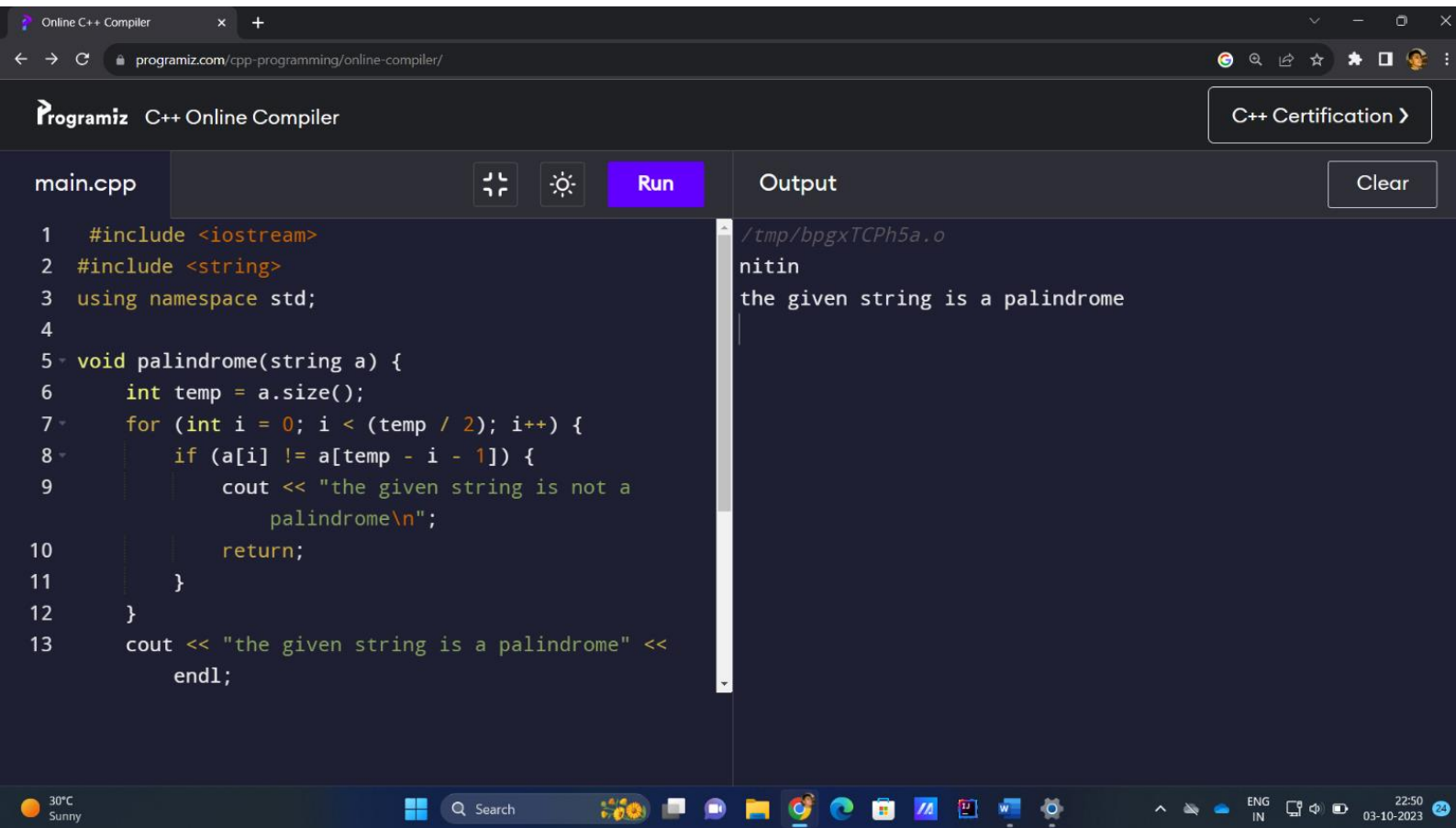
## Output

Clear

*/tmp/Hbz5ZCU0Un.o*

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Ques3. Write a program to check palindrome or no



Online C++ Compiler

programiz.com/cpp-programming/online-compiler/

C++ Certification >

main.cpp

```
1 #include <iostream>
2 #include <string>
3 using namespace std;
4
5 void palindrome(string a) {
6     int temp = a.size();
7     for (int i = 0; i < (temp / 2); i++) {
8         if (a[i] != a[temp - i - 1]) {
9             cout << "the given string is not a
              palindrome\n";
10            return;
11        }
12    }
13    cout << "the given string is a palindrome" <<
        endl;
```

Output

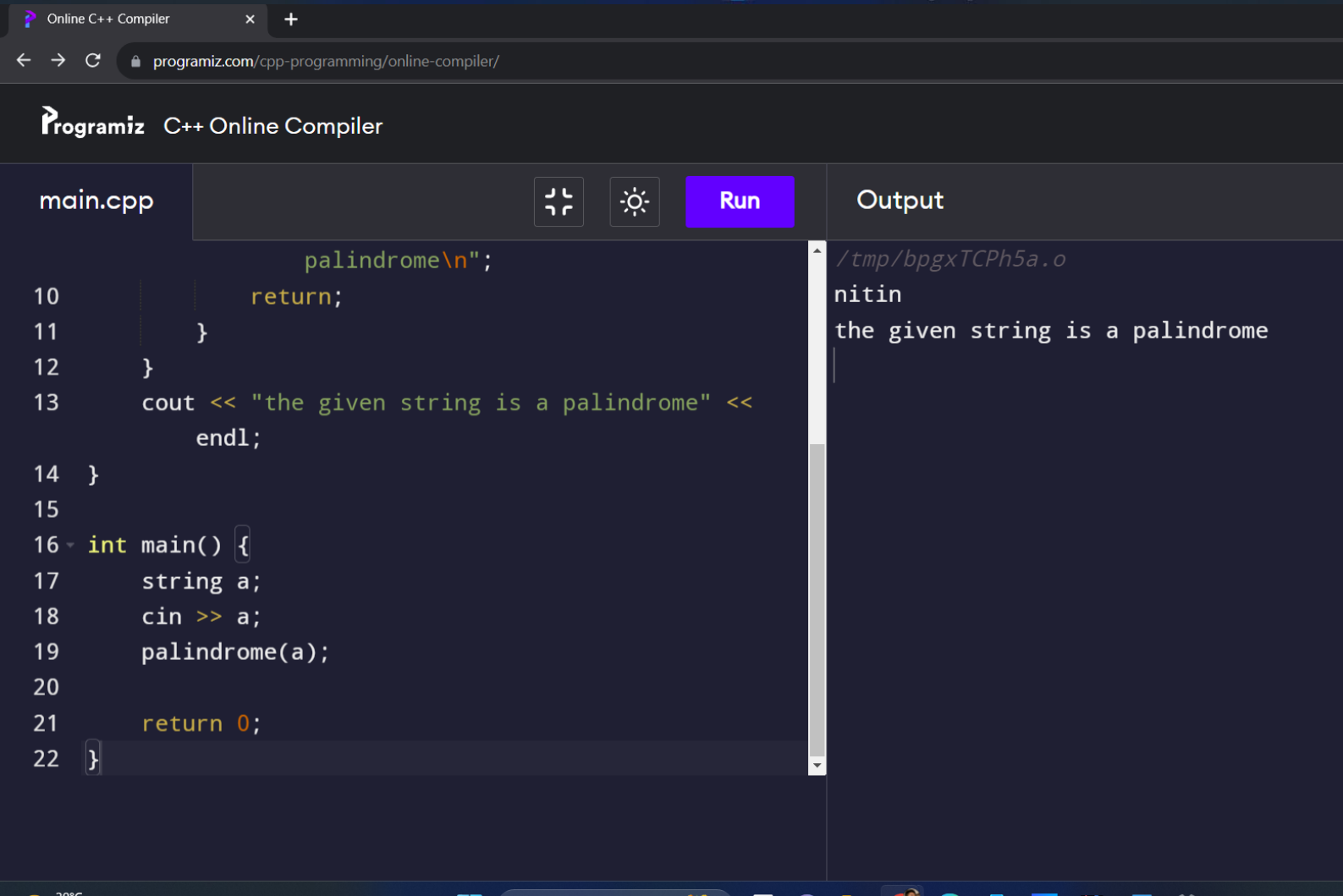
```
/tmp/bpgxTCPh5a.o
nitin
the given string is a palindrome
```

30°C Sunny

Search

ENG IN

22:50 03-10-2023



Online C++ Compiler

programiz.com/cpp-programming/online-compiler/

C++ Online Compiler

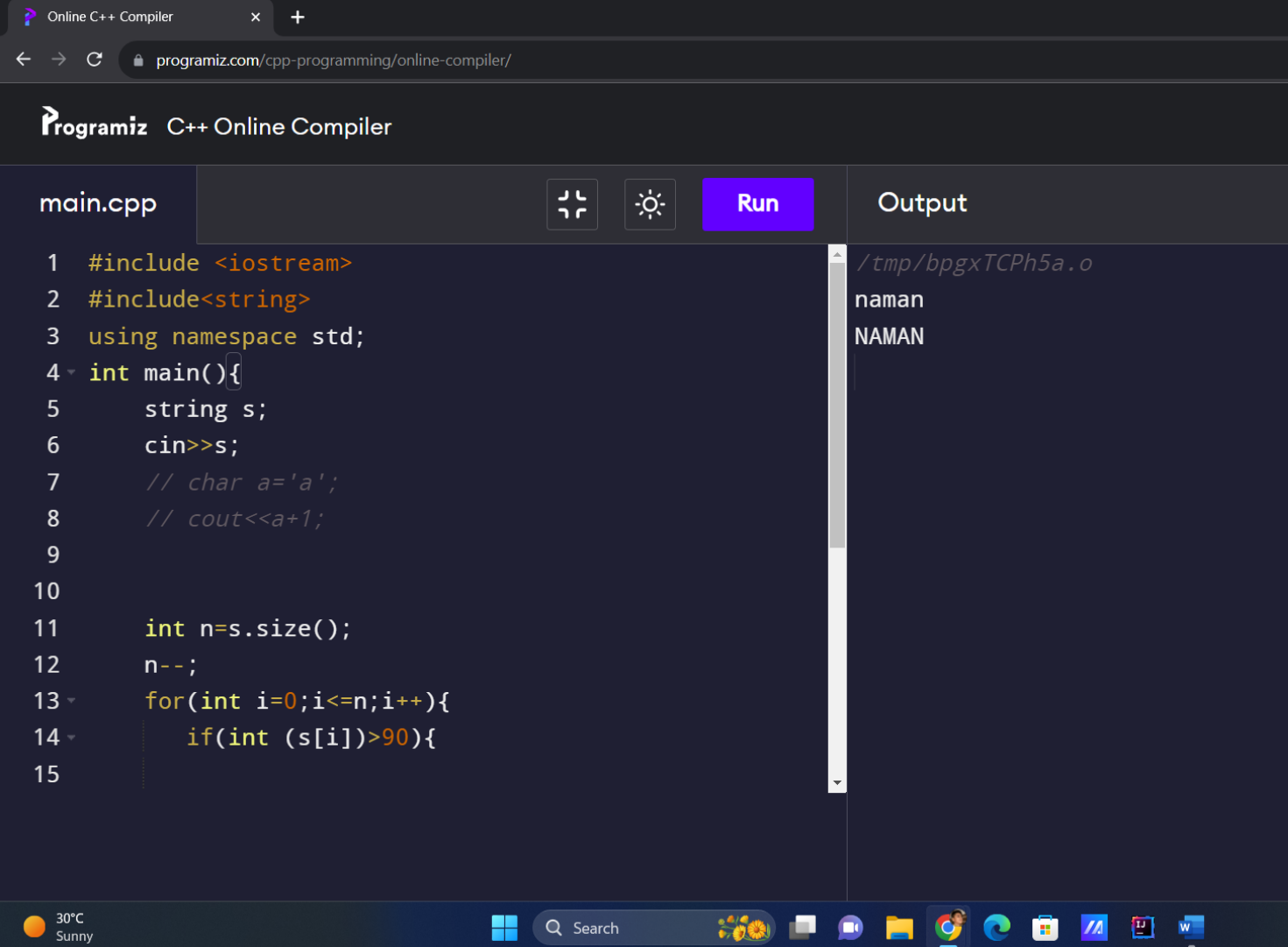
main.cpp

```
palindrome\n";
10     return;
11 }
12 }
13 cout << "the given string is a palindrome" <<
    endl;
14 }
15
16 int main() {
17     string a;
18     cin >> a;
19     palindrome(a);
20
21     return 0;
22 }
```

Output

```
/tmp/bpgxTCPh5a.o
nitin
the given string is a palindrome
```

Ques4. Write a program to convert lowercase to uppercase.



The screenshot shows a web browser window with the URL `programiz.com/cpp-programming/online-compiler/`. The page title is "Programiz C++ Online Compiler". The interface includes a code editor on the left, a "Run" button, and an "Output" panel on the right. The code in the editor is as follows:

```
1 #include <iostream>
2 #include<string>
3 using namespace std;
4 int main(){
5     string s;
6     cin>>s;
7     // char a='a';
8     // cout<<a+1;
9
10
11     int n=s.size();
12     n--;
13     for(int i=0;i<=n;i++){
14         if(int (s[i])>90){
15
```




The "Output" panel shows the result of running the program:


```
/tmp/bpgxTCPh5a.o
naman
NAMAN
```

The Windows taskbar at the bottom shows the system clock as 30°C Sunny, a search bar, and various application icons including File Explorer, Microsoft Edge, and Word.



Ques5. Write program to add float and integers.

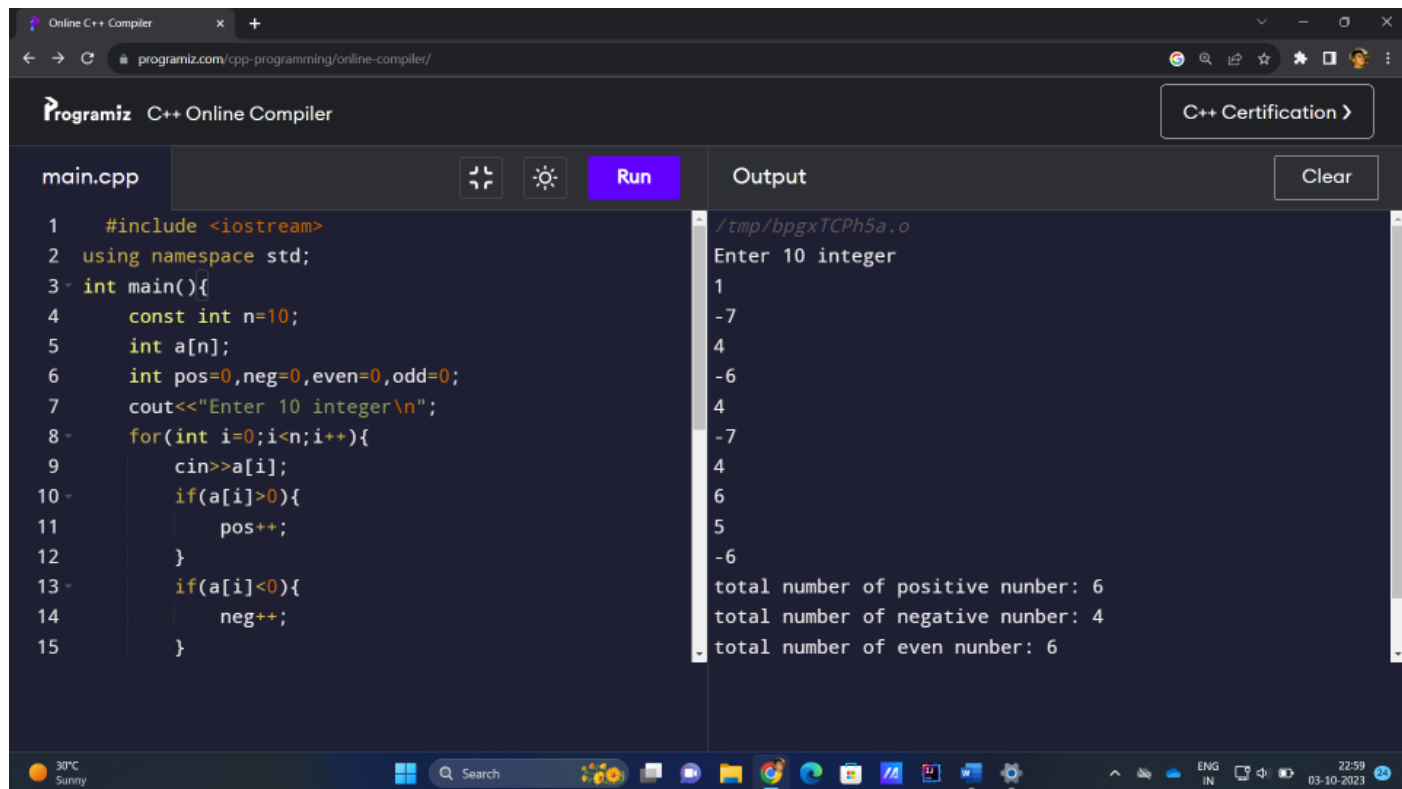
```
main.cpp   
1  #include<iostream>
2  using namespace std;
3  int sum(int a, int b){
4      return a+b;
5  }
6  float sum(float a, float b){
7      return a+b;
8  }
9  int main(){
10     int num1 = 7;
11     int num2 = 12;
12     float num3 = 2.36;
13     float num4 = 6.78;
14
15     cout<<"Sum of integers: "<<sum(num1,num2)<<endl;
16     cout<<"Sum of floats: "<<sum(num3,num4)<<endl;
17 }
```



## Output

```
/tmp/v8LXNVKXbw.o
Sum of integers: 19
Sum of floats: 9.14
|
```

Ques6. Write a program to figure out number of positive, negative, odd and even numbers.

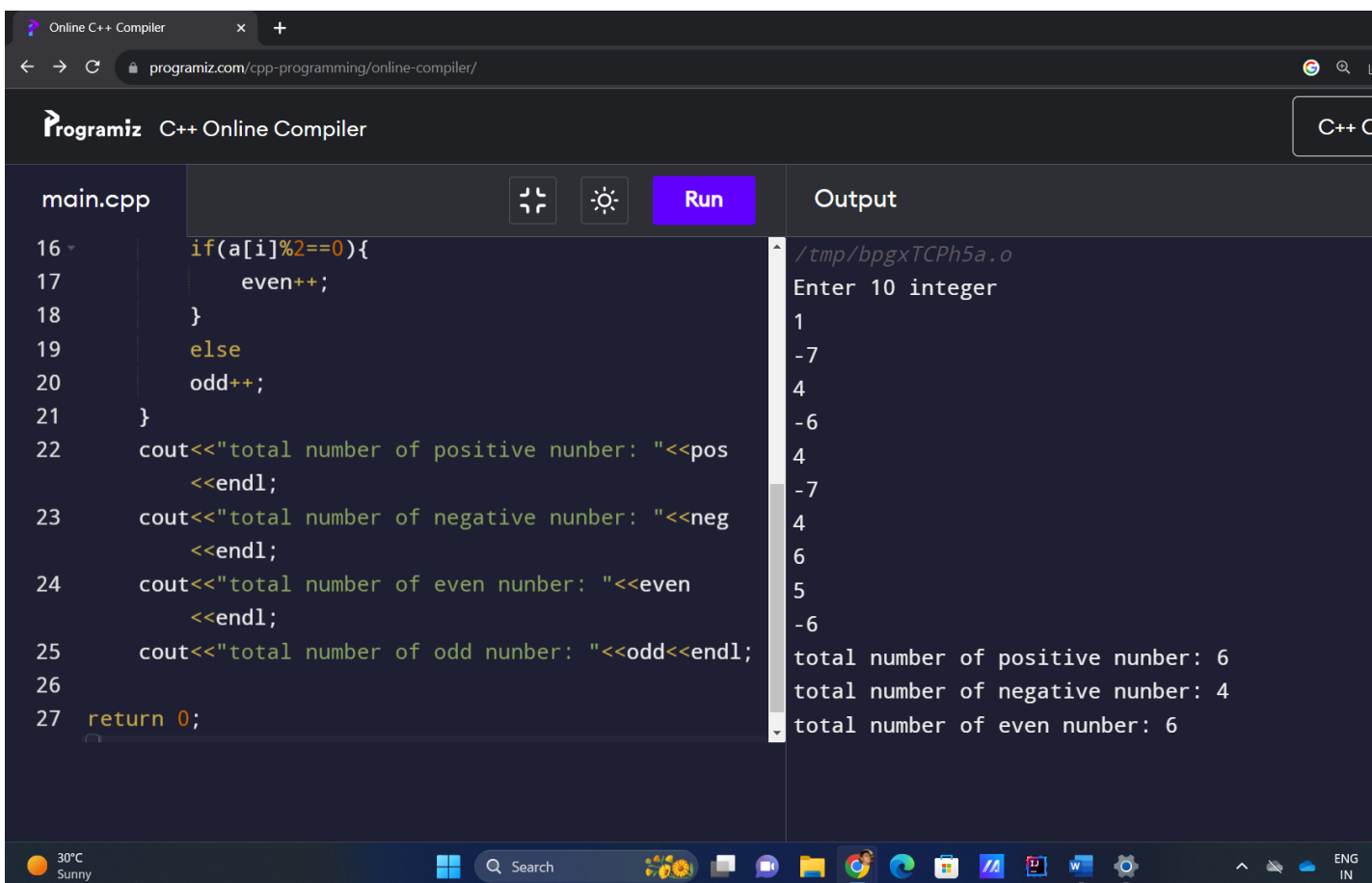


The screenshot shows the Programiz C++ Online Compiler interface. The code in `main.cpp` is as follows:

```
1 #include <iostream>
2 using namespace std;
3 int main(){
4     const int n=10;
5     int a[n];
6     int pos=0,neg=0,even=0,odd=0;
7     cout<<"Enter 10 integer\n";
8     for(int i=0;i<n;i++){
9         cin>>a[i];
10        if(a[i]>0){
11            pos++;
12        }
13        if(a[i]<0){
14            neg++;
15        }
16    }
```

The output window shows the following text:

```
/tmp/bpgxTCPh5a.o
Enter 10 integer
1
-7
4
-6
4
-7
4
6
5
-6
total number of positive number: 6
total number of negative number: 4
total number of even number: 6
```



The screenshot shows the Programiz C++ Online Compiler interface. The code in `main.cpp` is as follows:

```
16 if(a[i]%2==0){
17     even++;
18 }
19 else
20     odd++;
21 }
22 cout<<"total number of positive number: "<<pos
23     <<endl;
24 cout<<"total number of negative number: "<<neg
25     <<endl;
26 cout<<"total number of even number: "<<even
27     <<endl;
28 cout<<"total number of odd number: "<<odd<<endl;
29 return 0;
```

The output window shows the following text:

```
/tmp/bpgxTCPh5a.o
Enter 10 integer
1
-7
4
-6
4
-7
4
6
5
-6
total number of positive number: 6
total number of negative number: 4
total number of even number: 6
```



