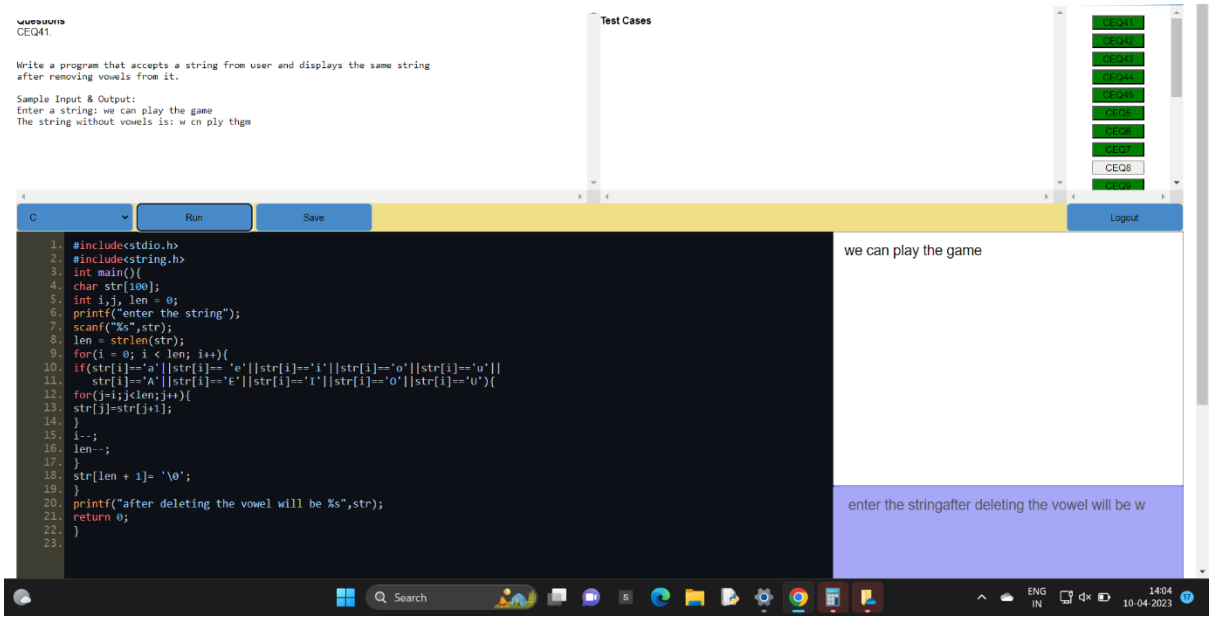
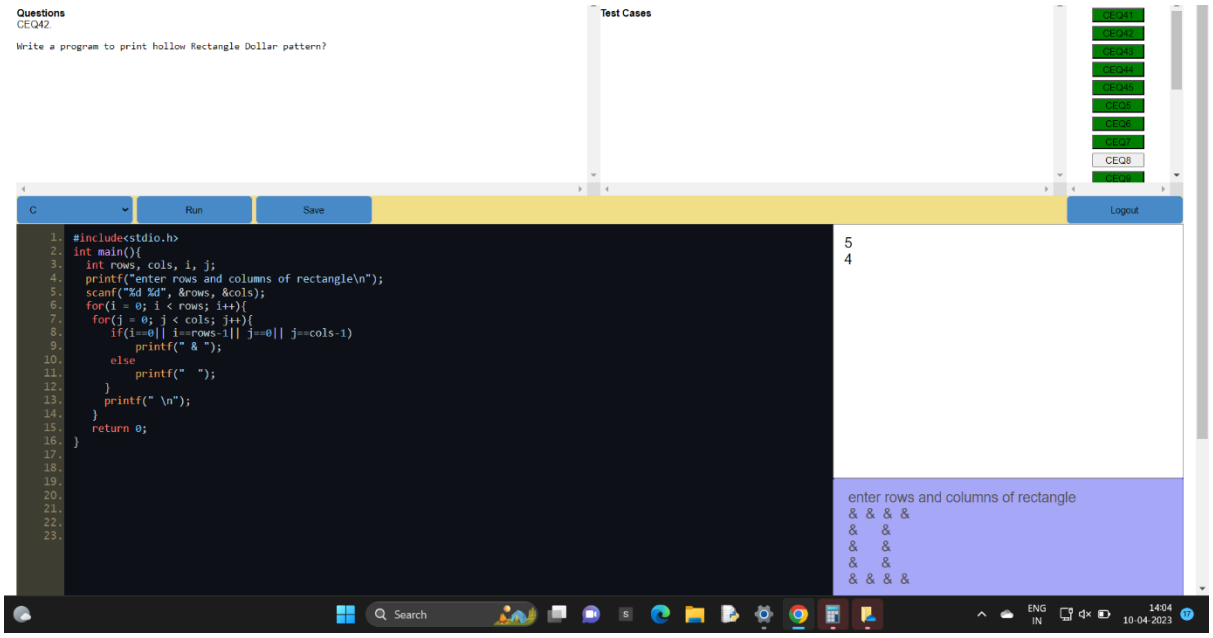
Day 6 CLASS WORK

Mohan.K
192211151

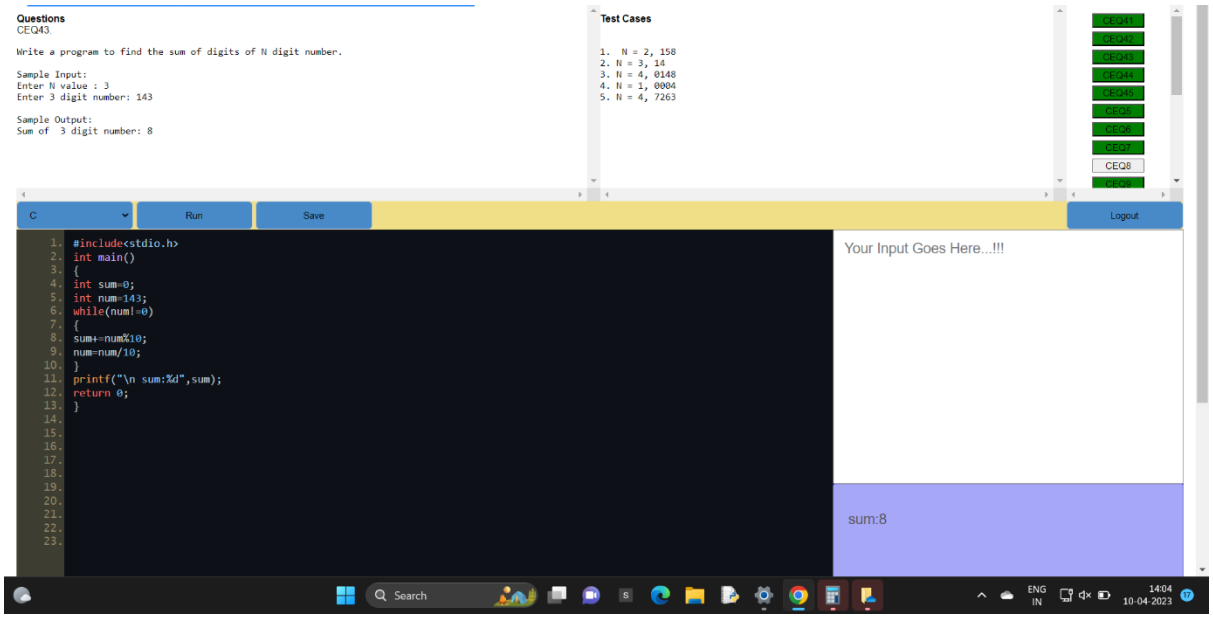
1.



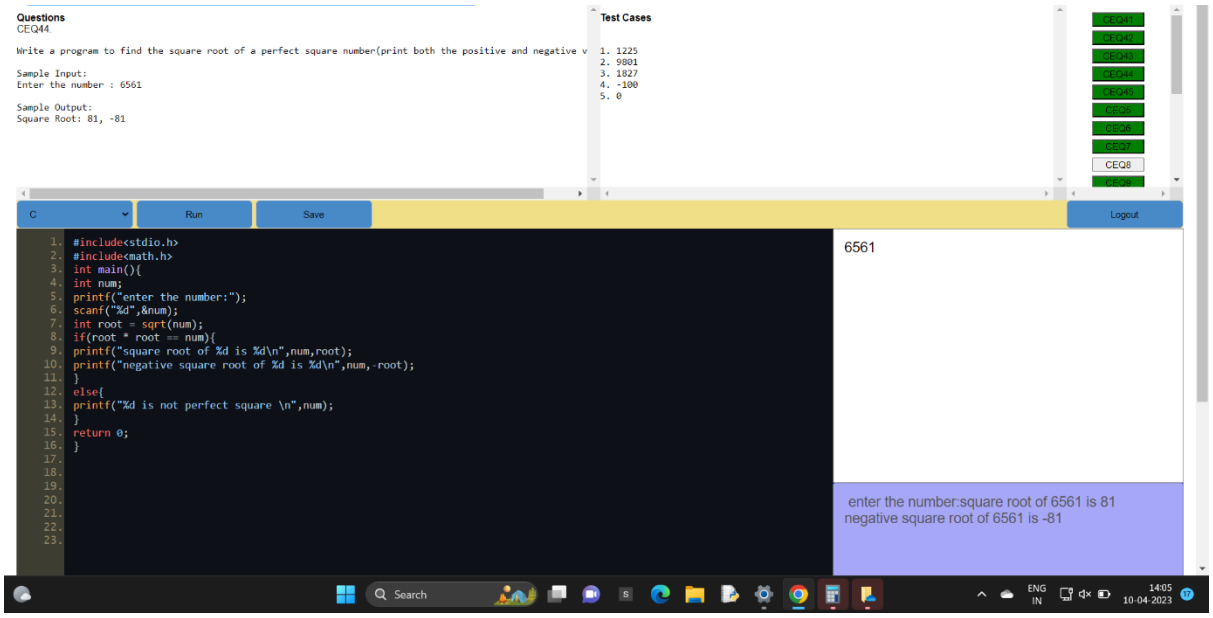
2.


Questions
CEQ42.
Write a program to print hollow Rectangle Dollar pattern?
Test Cases
CEQ41
CEQ42
CEQ43
CEQ44
CEQ45
CEQ6
CEQ7
CEQ8
C
Run
Save
Logout
#include<stdio.h>
int main(){
int rows, cols, i, j;
printf("enter rows and columns of rectangle\n");
scanf("%d %d", &rows, &cols);
for(i = 0; i < rows; i++){
for(j = 0; j < cols; j++){
if(i==0|| i==rows-1|| j==0|| j==cols-1)
printf(" & ");
else
printf(" ");
}
printf(" \n");
}
return 0;
}
5
4
enter rows and columns of rectangle
& & & &
& &
& &
& &
& & & &
Search
ENG
IN
14:04
10-04-2023

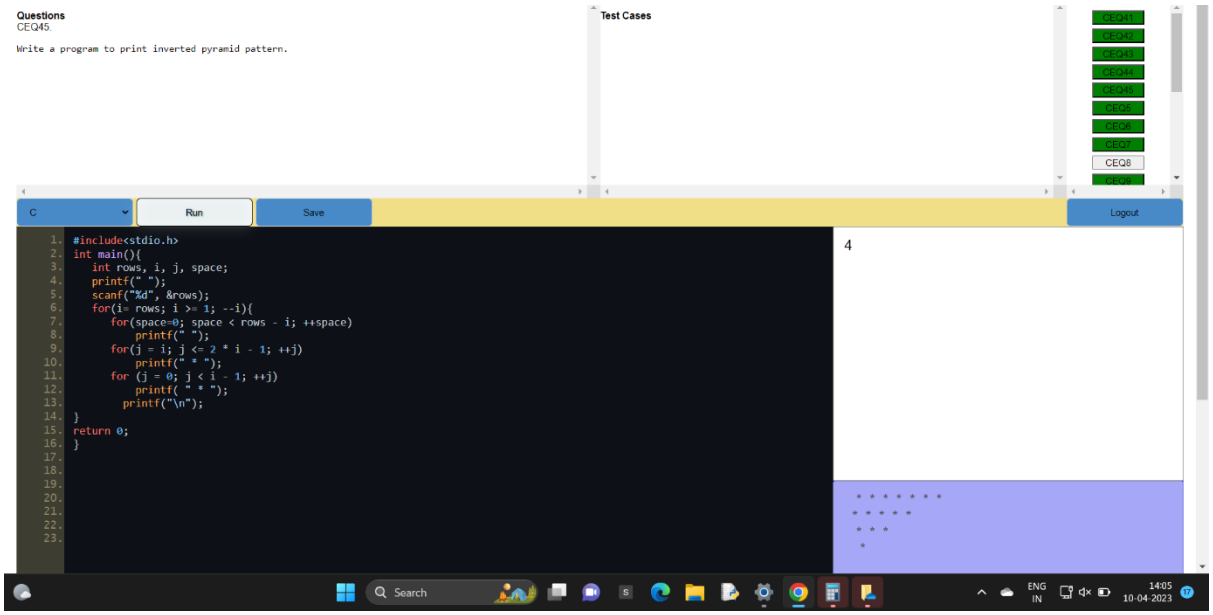
3.


Questions
CEQ43.
Write a program to find the sum of digits of N digit number.
Sample Input:
Enter N value : 3
Enter 3 digit number: 143
Sample Output:
Sum of 3 digit number: 8
Test Cases
1. N = 2, 158
2. N = 3, 14
3. N = 4, 0148
4. N = 1, 0004
5. N = 4, 7263
CEQ41
CEQ42
CEQ43
CEQ44
CEQ45
CEQ6
CEQ7
CEQ8
C
Run
Save
Logout
#include<stdio.h>
int main()
{
int sum=0;
int num=143;
while(num!=0)
{
sum+=num%10;
num=num/10;
}
printf("\n sum:%d",sum);
return 0;
}
Your Input Goes Here...!!!
sum:8
Search
ENG
IN
14:04
10-04-2023

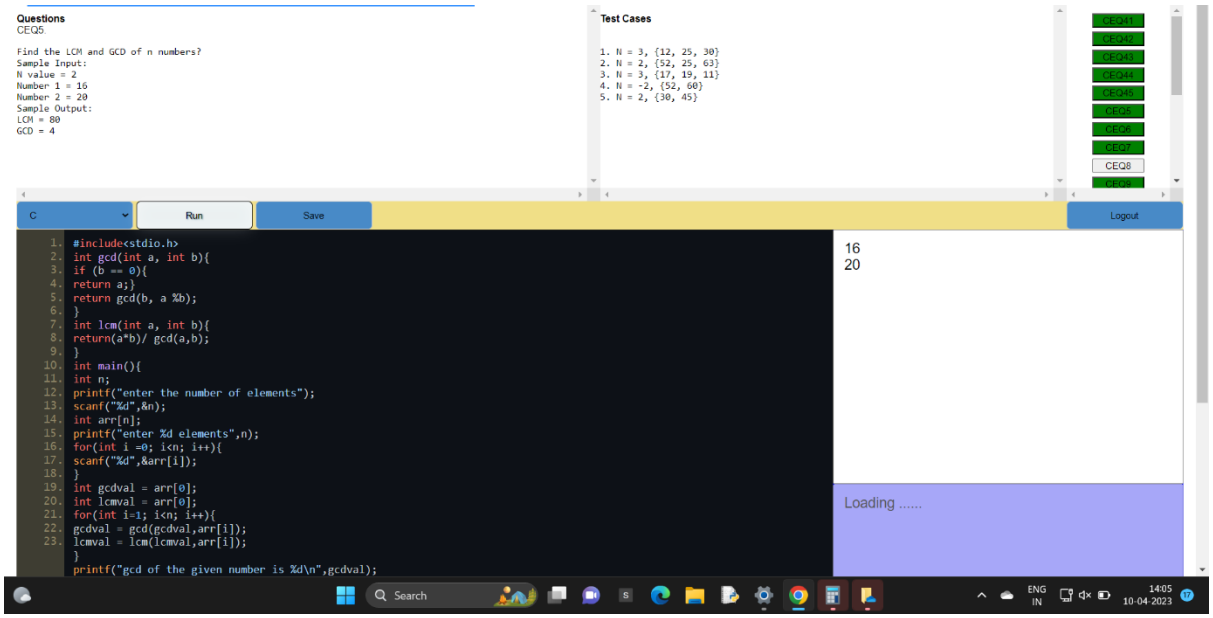
4.


Questions
CEQ44.
Write a program to find the square root of a perfect square number(print both the positive and negative v
Sample Input:
Enter the number : 6561
Sample Output:
Square Root: 81, -81
Test Cases
1. 1225
2. 9801
3. 1827
4. -100
5. 0
CEQ41
CEQ42
CEQ43
CEQ44
CEQ45
CEQ5
CEQ6
CEQ7
CEQ8
CEQ9
C
Run
Save
Logout
#include<stdio.h>
#include<math.h>
int main(){
int num;
printf("enter the number:");
scanf("%d",&num);
int root = sqrt(num);
if(root * root == num){
printf("square root of %d is %d\n",num,root);
printf("negative square root of %d is %d\n",num,-root);
}
else{
printf("%d is not perfect square \n",num);
}
return 0;
}
6561
enter the number:square root of 6561 is 81
negative square root of 6561 is -81
Search
ENG
IN
14:05
10-04-2023

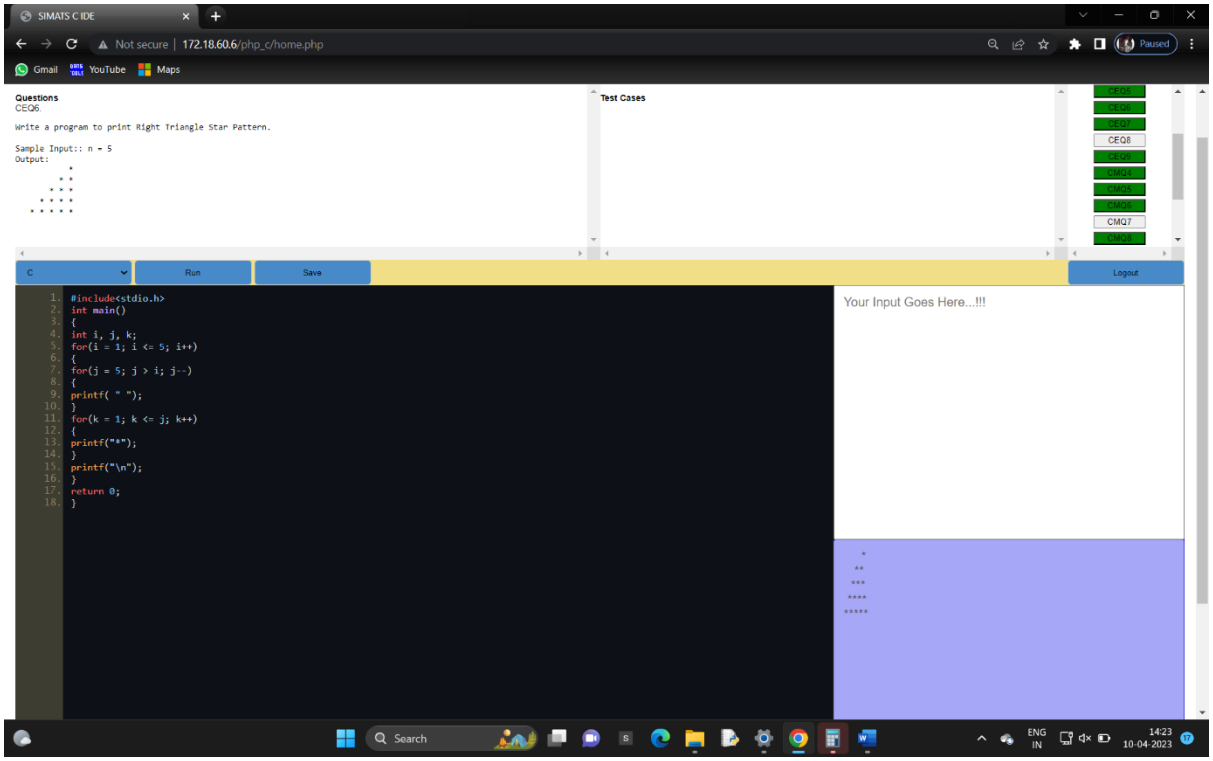
5.


Questions
CEQ45.
Write a program to print inverted pyramid pattern.
Test Cases
CEQ41
CEQ42
CEQ43
CEQ44
CEQ45
CEQ5
CEQ6
CEQ7
CEQ8
CEQ9
C
Run
Save
Logout
#include<stdio.h>
int main(){
int rows, i, j, space;
printf(" ");
scanf("%d", &rows);
for(i= rows; i >= 1; --i){
for(space=0; space < rows - i; ++space)
printf(" ");
for(j = i; j <= 2 * i - 1; ++j)
printf(" * ");
for (j = 0; j < i - 1; ++j)
printf(" * ");
printf("\n");
}
return 0;
}
4
* * * * * * *
* * * * *
* * *
*
Search
ENG
IN
14:05
10-04-2023

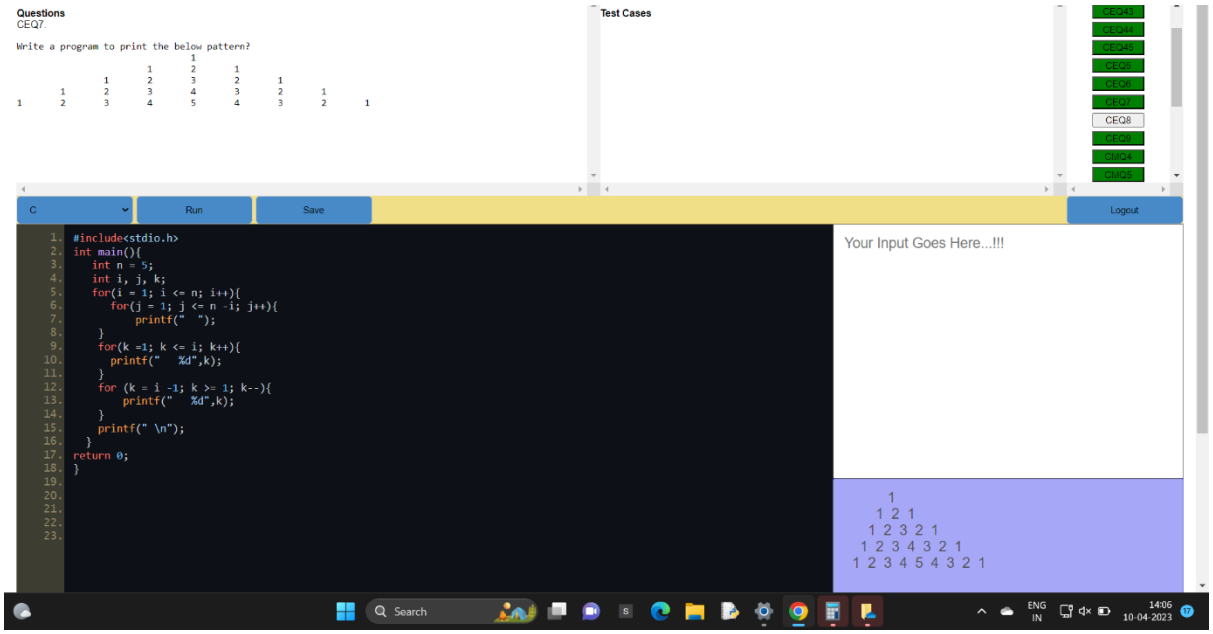
6.


Questions
CEQ5.
Find the LCM and GCD of n numbers?
Sample Input:
N value = 2
Number 1 = 16
Number 2 = 20
Sample Output:
LCM = 80
GCD = 4
Test Cases
1. N = 3, {12, 25, 30}
2. N = 2, {52, 25, 63}
3. N = 3, {17, 19, 11}
4. N = -2, {52, 60}
5. N = 2, {30, 45}
CEQ41
CEQ42
CEQ43
CEQ44
CEQ45
CEQ5
CEQ6
CEQ7
CEQ8
CEQ9
C
Run
Save
Logout
#include<stdio.h>
int gcd(int a, int b){
if (b == 0){
return a;}
return gcd(b, a %b);
}
int lcm(int a, int b){
return(a*b)/ gcd(a,b);
}
int main(){
int n;
printf("enter the number of elements");
scanf("%d",&n);
int arr[n];
printf("enter %d elements",n);
for(int i =0; i<n; i++){
scanf("%d",&arr[i]);
}
int gcdval = arr[0];
int lcmval = arr[0];
for(int i=1; i<n; i++){
gcdval = gcd(gcdval,arr[i]);
lcmval = lcm(lcmval,arr[i]);
}
printf("gcd of the given number is %d\n",gcdval);
16
20
Loading .....
Search
ENG
IN
14:05
10-04-2023

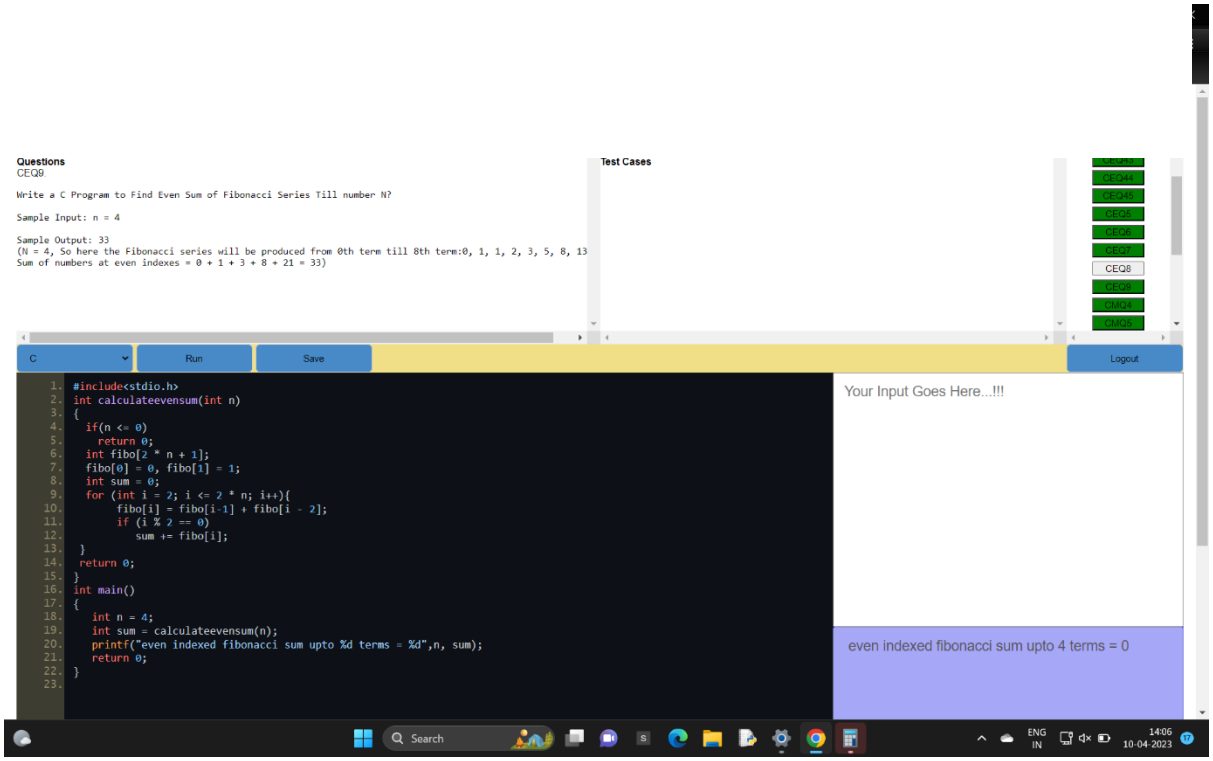
7.


SIMATS C IDE
Not secure | 172.18.60.6/php_c/home.php
Paused
Gmail
YouTube
Maps
Questions
CEQ6
Write a program to print Right Triangle Star Pattern.
Sample Input:: n = 5
Output:
Test Cases
CEQ5
CEQ6
CEQ7
CEQ8
CEQ9
CMQ4
CMQ5
CMQ6
CMQ7
CMQ8
C
Run
Save
Logout
#include<stdio.h>
int main()
{
int i, j, k;
for(i = 1; i <= 5; i++)
{
for(j = 5; j > i; j--)
{
printf(" ");
}
for(k = 1; k <= j; k++)
{
printf("*");
}
printf("\n");
}
return 0;
}
Your Input Goes Here...!!!
*
**
***
****
*****
Search
ENG
IN
14:23
10-04-2023

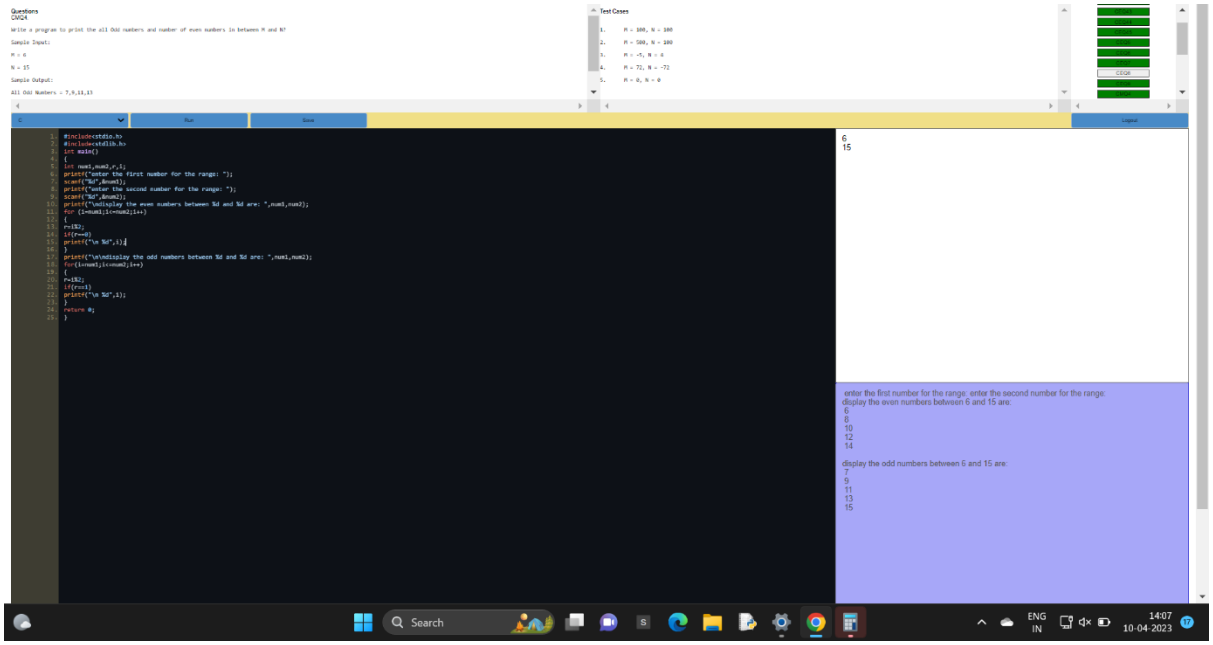
8.


Questions
CEQ7.
Write a program to print the below pattern?
1
1 2 1
1 2 3 2 1
1 2 3 4 3 2 1
1 2 3 4 5 4 3 2 1
Test Cases
CEQ43
CEQ44
CEQ45
CEQ5
CEQ6
CEQ7
CEQ8
CEQ9
CMQ4
CMQ5
C
Run
Save
Logout
#include<stdio.h>
int main(){
int n = 5;
int i, j, k;
for(i = 1; i <= n; i++){
for(j = 1; j <= n -i; j++){
printf(" ");
}
for(k =1; k <= i; k++){
printf(" %d",k);
}
for (k = i -1; k >= 1; k--){
printf(" %d",k);
}
printf(" \n");
}
return 0;
}
Your Input Goes Here...!!!
1
1 2 1
1 2 3 2 1
1 2 3 4 3 2 1
1 2 3 4 5 4 3 2 1
Search
ENG
IN
14:06
10-04-2023

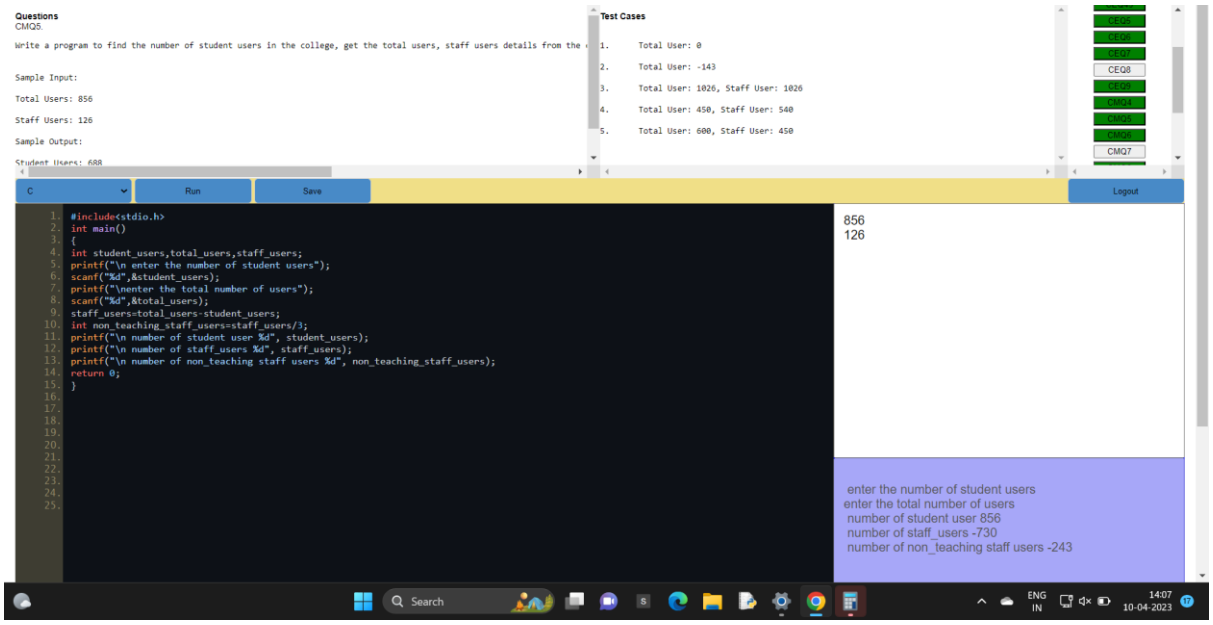
9.


Questions
CEQ9.
Write a C Program to Find Even Sum of Fibonacci Series Till number N?
Sample Input: n = 4
Sample Output: 33
(N = 4, So here the Fibonacci series will be produced from 0th term till 8th term:0, 1, 1, 2, 3, 5, 8, 13
Sum of numbers at even indexes = 0 + 1 + 3 + 8 + 21 = 33)
Test Cases
CEQ4
CEQ5
CEQ6
CEQ7
CEQ8
CEQ9
CMQ4
CMQ5
C
Run
Save
Logout
#include<stdio.h>
int calculateevensum(int n)
{
if(n <= 0)
return 0;
int fibo[2 * n + 1];
fibo[0] = 0, fibo[1] = 1;
int sum = 0;
for (int i = 2; i <= 2 * n; i++){
fibo[i] = fibo[i-1] + fibo[i - 2];
if (i % 2 == 0)
sum += fibo[i];
}
return 0;
}
int main()
{
int n = 4;
int sum = calculateevensum(n);
printf("even indexed fibonacci sum upto %d terms = %d",n, sum);
return 0;
}
Your Input Goes Here...!!!
even indexed fibonacci sum upto 4 terms = 0
Search
ENG
IN
14:06
10-04-2023

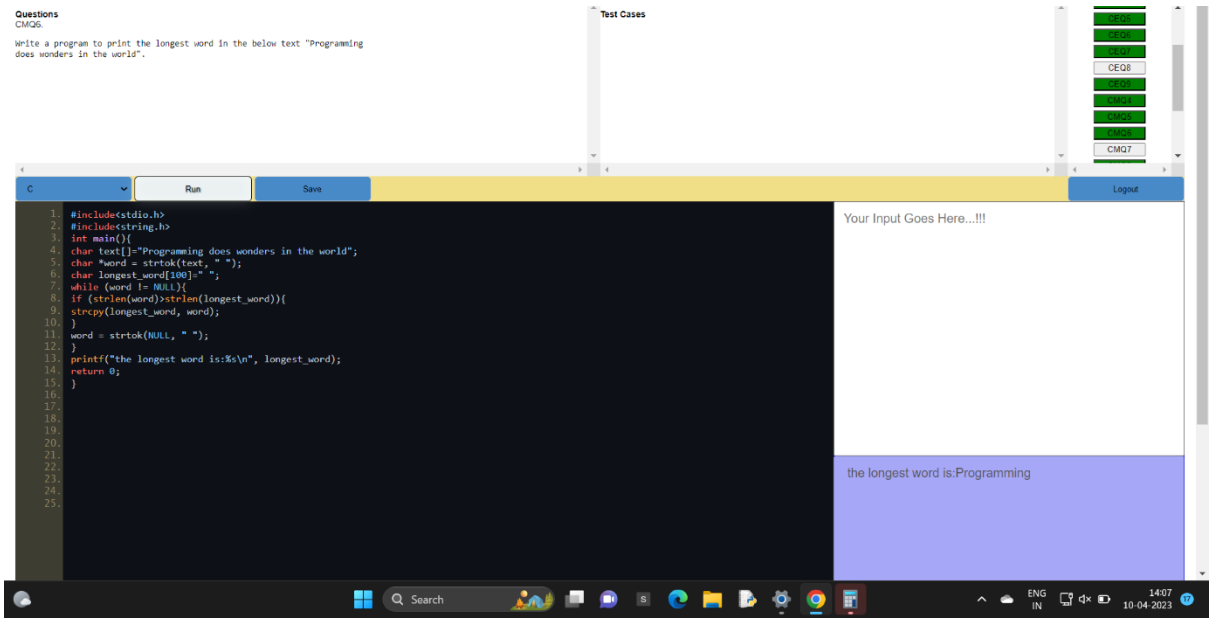
10.


Questions
CAT24
Write a program to print the all Odd numbers and number of even numbers in between M and N?
Sample Input:
M = 6
N = 15
Sample Output:
All Odd Numbers - 7,9,11,13
Test Cases
1. M = 100, N = 100
2. M = 500, N = 100
3. M = -5, N = 4
4. M = 72, N = -72
5. M = 0, N = 0
CODE
#include<stdio.h>
#include<stdlib.h>
int main()
{
int num1,num2,r,i;
printf("enter the first number for the range: ");
scanf("%d",&num1);
printf("enter the second number for the range: ");
scanf("%d",&num2);
printf("\ndisplay the even numbers between %d and %d are: ",num1,num2);
for (i=num1;i<=num2;i++)
{
r=i%2;
if(r==0)
printf("\n %d",i);
}
printf("\n\ndisplay the odd numbers between %d and %d are: ",num1,num2);
for(i=num1;i<=num2;i++)
{
r=i%2;
if(r==1)
printf("\n %d",i);
}
return 0;
}
6
15
enter the first number for the range: enter the second number for the range:
display the even numbers between 6 and 15 are:
6
8
10
12
14
display the odd numbers between 6 and 15 are:
7
9
11
13
15
Search
ENG
IN
14:07
10-04-2023

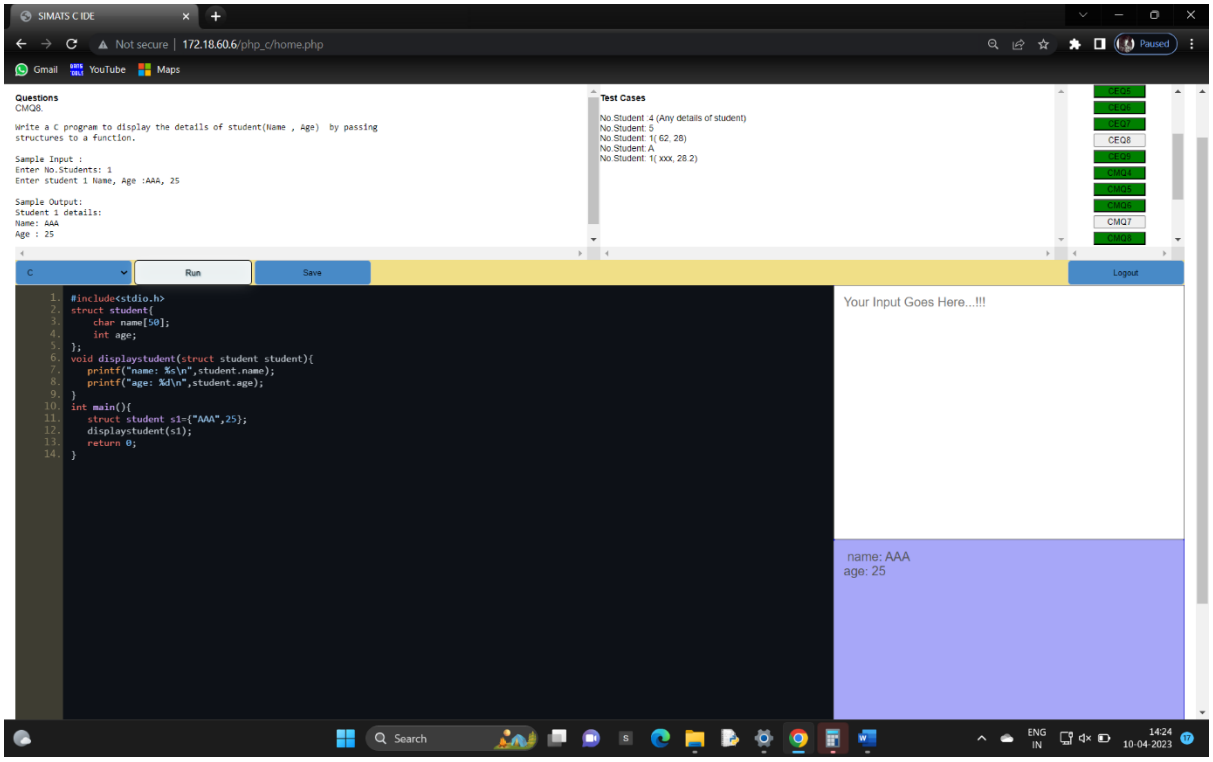
11.


Questions
CMQ5.
Write a program to find the number of student users in the college, get the total users, staff users details from the
Sample Input:
Total Users: 856
Staff Users: 126
Sample Output:
Test Cases
1. Total User: 0
2. Total User: -143
3. Total User: 1026, Staff User: 1026
4. Total User: 450, Staff User: 540
5. Total User: 600, Staff User: 450
CEQ6
CEQ7
CEQ8
CEQ9
CMQ4
CMQ5
CMQ6
CMQ7
C
Run
Save
Logout
#include<stdio.h>
int main()
{
int student_users,total_users,staff_users;
printf("\n enter the number of student users");
scanf("%d",&student_users);
printf("\nenter the total number of users");
scanf("%d",&total_users);
staff_users=total_users-student_users;
int non_teaching_staff_users=staff_users/3;
printf("\n number of student user %d", student_users);
printf("\n number of staff_users %d", staff_users);
printf("\n number of non_teaching staff users %d", non_teaching_staff_users);
return 0;
}
856
126
enter the number of student users
enter the total number of users
number of student user 856
number of staff_users -730
number of non_teaching staff users -243
Search
ENG
IN
14:07
10-04-2023

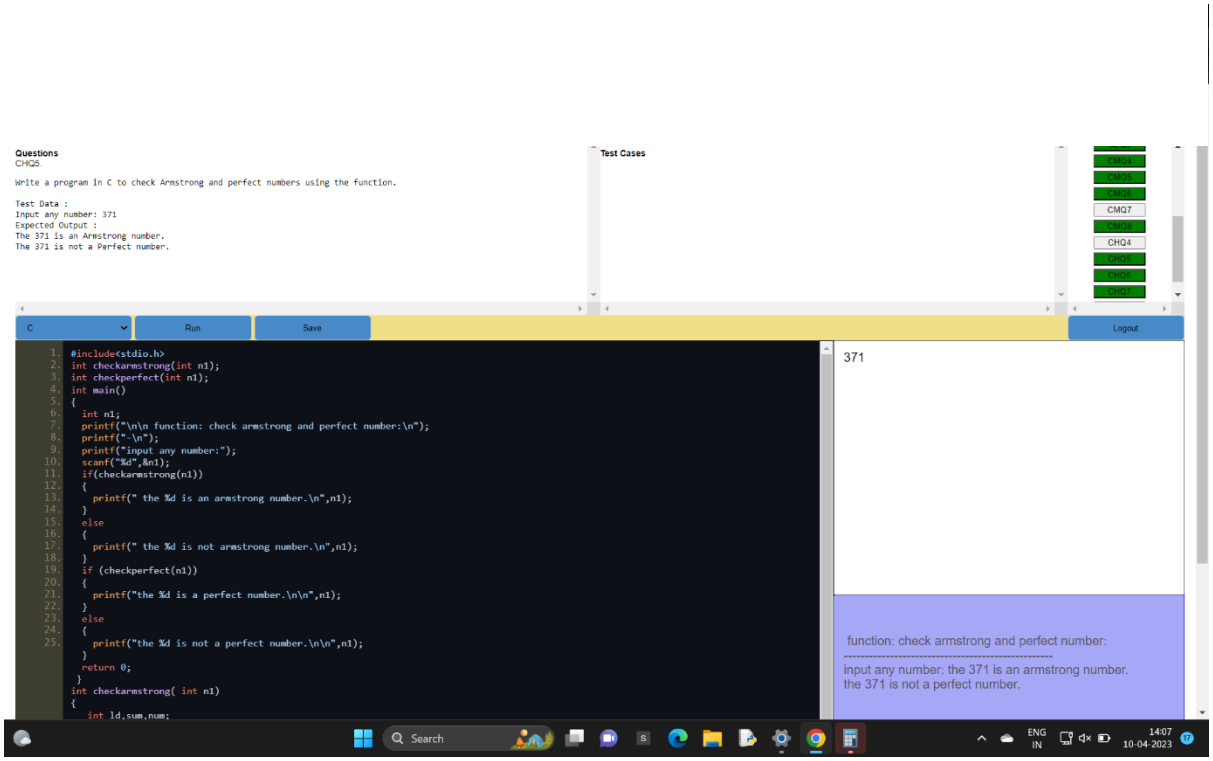
12.


Questions
CMQ6.
Write a program to print the longest word in the below text "Programming does wonders in the world".
Test Cases
CEQ5
CEQ6
CEQ7
CEQ8
CEQ9
CMQ4
CMQ5
CMQ6
CMQ7
C
Run
Save
Logout
#include<stdio.h>
#include<string.h>
int main(){
char text[]="Programming does wonders in the world";
char *word = strtok(text, " ");
char longest_word[100]=" ";
while (word != NULL){
if (strlen(word)>strlen(longest_word)){
strcpy(longest_word, word);
}
word = strtok(NULL, " ");
}
printf("the longest word is:%s\n", longest_word);
return 0;
}
Your Input Goes Here...!!!
the longest word is:Programming
Search
ENG
IN
14:07
10-04-2023

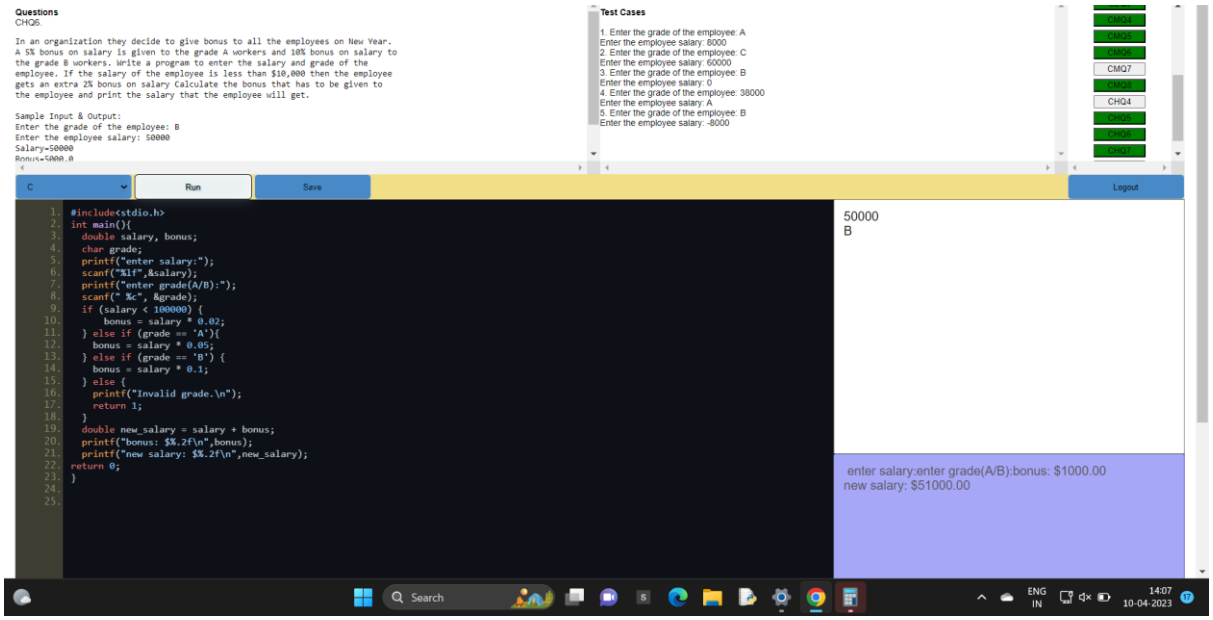
13.


SIMATS C IDE
Not secure | 172.18.60.6/php_c/home.php
Gmail
YouTube
Maps
Paused
Questions
CMQ8.
Write a C program to display the details of student(Name , Age) by passing structures to a function.
Sample Input :
Enter No.Students: 1
Enter student 1 Name, Age :AAA, 25
Sample Output:
Student 1 details:
Name: AAA
Age : 25
Test Cases
No.Student :4 (Any details of student)
No.Student: 5
No.Student :1(62, 28)
No.Student: A
No.Student: 1(xxx, 28.2)
CEQ6
CEQ7
CEQ8
CEQ9
CMQ4
CMQ5
CMQ6
CMQ7
CMQ8
C
Run
Save
Logout
#include<stdio.h>
struct student{
char name[50];
int age;
};
void displaystudent(struct student student){
printf("name: %s\n",student.name);
printf("age: %d\n",student.age);
}
int main(){
struct student s1={"AAA",25};
displaystudent(s1);
return 0;
}
Your Input Goes Here...!!!
name: AAA
age: 25
Search
ENG
IN
14:24
10-04-2023

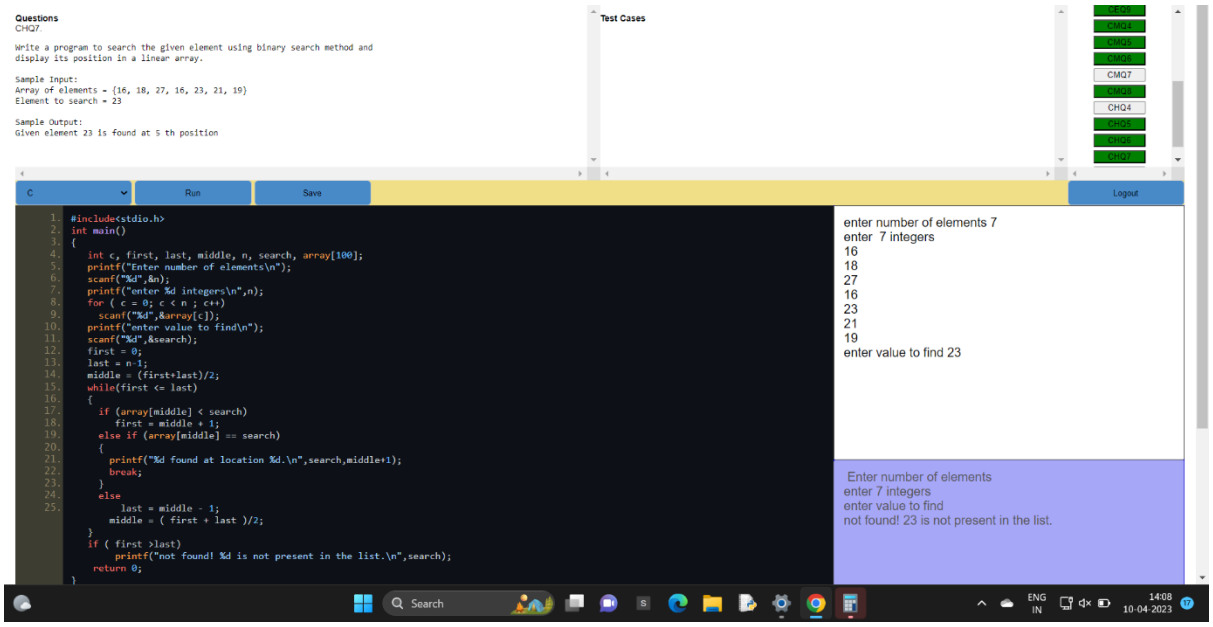
14.


Questions
CHQ5.
Write a program in C to check Armstrong and perfect numbers using the function.
Test Data :
Input any number: 371
Expected Output :
The 371 is an Armstrong number.
The 371 is not a Perfect number.
Test Cases
CMQ6
CMQ5
CMQ1
CMQ7
CMQ8
CHQ4
CHQ6
CHQ3
CHQ7
C
Run
Save
Logout
#include<stdio.h>
int checkarmstrong(int n1);
int checkperfect(int n1);
int main()
{
int n1;
printf("\n\n function: check armstrong and perfect number:\n");
printf("-\n");
printf("input any number:");
scanf("%d",&n1);
if(checkarmstrong(n1))
{
printf(" the %d is an armstrong number.\n",n1);
}
else
{
printf(" the %d is not armstrong number.\n",n1);
}
if (checkperfect(n1))
{
printf("the %d is a perfect number.\n\n",n1);
}
else
{
printf("the %d is not a perfect number.\n\n",n1);
}
return 0;
}
int checkarmstrong(int n1)
{
int ld,sum,num;
371
function: check armstrong and perfect number:
input any number: the 371 is an armstrong number.
the 371 is not a perfect number.
Search
ENG
IN
14:07
10-04-2023

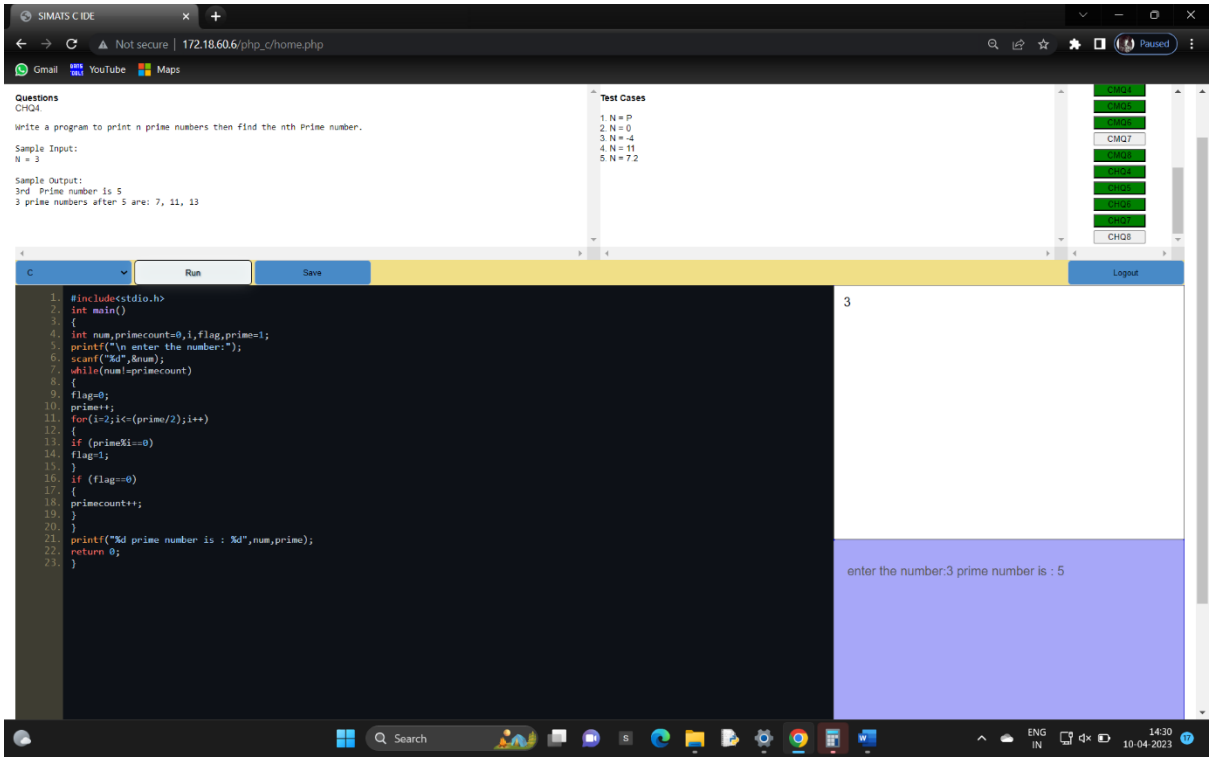
15.


Questions
CHQ6.
In an organization they decide to give bonus to all the employees on New Year. A 5% bonus on salary is given to the grade A workers and 10% bonus on salary to the grade B workers. Write a program to enter the salary and grade of the employee. If the salary of the employee is less than $10,000 then the employee gets an extra 2% bonus on salary Calculate the bonus that has to be given to the employee and print the salary that the employee will get.
Sample Input & Output:
Enter the grade of the employee: B
Enter the employee salary: 50000
Salary=50000
Bonus=5000.0
Test Cases
1. Enter the grade of the employee: A
Enter the employee salary: 6000
2. Enter the grade of the employee: C
Enter the employee salary: 60000
3. Enter the grade of the employee: B
Enter the employee salary: 0
4. Enter the grade of the employee: 38000
Enter the employee salary: A
5. Enter the grade of the employee: B
Enter the employee salary: -8000
CMQ8
CMQ5
CMQ6
CMQ7
CHQ4
CHQ5
CHQ6
CHQ7
C
Run
Save
Logout
#include<stdio.h>
int main(){
double salary, bonus;
char grade;
printf("enter salary:");
scanf("%lf",&salary);
printf("enter grade(A/B):");
scanf(" %c", &grade);
if (salary < 100000) {
bonus = salary * 0.02;
} else if (grade == 'A'){
bonus = salary * 0.05;
} else if (grade == 'B') {
bonus = salary * 0.1;
} else {
printf("Invalid grade.\n");
return 1;
}
double new_salary = salary + bonus;
printf("bonus: $%.2f\n",bonus);
printf("new salary: $%.2f\n",new_salary);
return 0;
}
50000
B
enter salary:enter grade(A/B):bonus: $1000.00
new salary: $51000.00
Search
ENG
IN
14:07
10-04-2023

16.


Questions
CHQ7.
Write a program to search the given element using binary search method and display its position in a linear array.
Sample Input:
Array of elements - {16, 18, 27, 16, 23, 21, 19}
Element to search - 23
Sample Output:
Given element 23 is found at 5 th position
Test Cases
CMQ7
CMQ8
CHQ4
C
Run
Save
Logout
#include<stdio.h>
int main()
{
int c, first, last, middle, n, search, array[100];
printf("Enter number of elements\n");
scanf("%d",&n);
printf("enter %d integers\n",n);
for (c = 0; c < n ; c++)
scanf("%d",&array[c]);
printf("enter value to find\n");
scanf("%d",&search);
first = 0;
last = n-1;
middle = (first+last)/2;
while(first <= last)
{
if (array[middle] < search)
first = middle + 1;
else if (array[middle] == search)
{
printf("%d found at location %d.\n",search,middle+1);
break;
}
else
last = middle - 1;
middle = (first + last)/2;
}
if (first >last)
printf("not found! %d is not present in the list.\n",search);
return 0;
}
enter number of elements 7
enter 7 integers
16
18
27
16
23
21
19
enter value to find 23
Enter number of elements
enter 7 integers
enter value to find
not found! 23 is not present in the list.
Search
ENG
IN
14:08
10-04-2023

17.


SIMATS C IDE
Not secure | 172.18.60.6/php_c/home.php
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Maps
Paused
Questions
CHQ4.
Write a program to print n prime numbers then find the nth Prime number.
Sample Input:
N = 3
Sample Output:
3rd Prime number is 5
3 prime numbers after 5 are: 7, 11, 13
Test Cases
1. N = P
2. N = 0
3. N = -4
4. N = 11
5. N = 7.2
CMQ4
CMQ5
CMQ6
CMQ7
CMQ8
CHQ4
CHQ5
CHQ6
CHQ7
CHQ8
C
Run
Save
Logout
#include<stdio.h>
int main()
{
int num,primecount=0,i,flag,prime=1;
printf("\n enter the number:");
scanf("%d",&num);
while(num!=primecount)
{
flag=0;
prime++;
for(i=2;i<=(prime/2);i++)
{
if (prime%i==0)
flag=1;
}
if (flag==0)
{
primecount++;
}
}
printf("%d prime number is : %d",num,prime);
return 0;
}
3
enter the number:3 prime number is : 5
Search
ENG
IN
14:30
10-04-2023