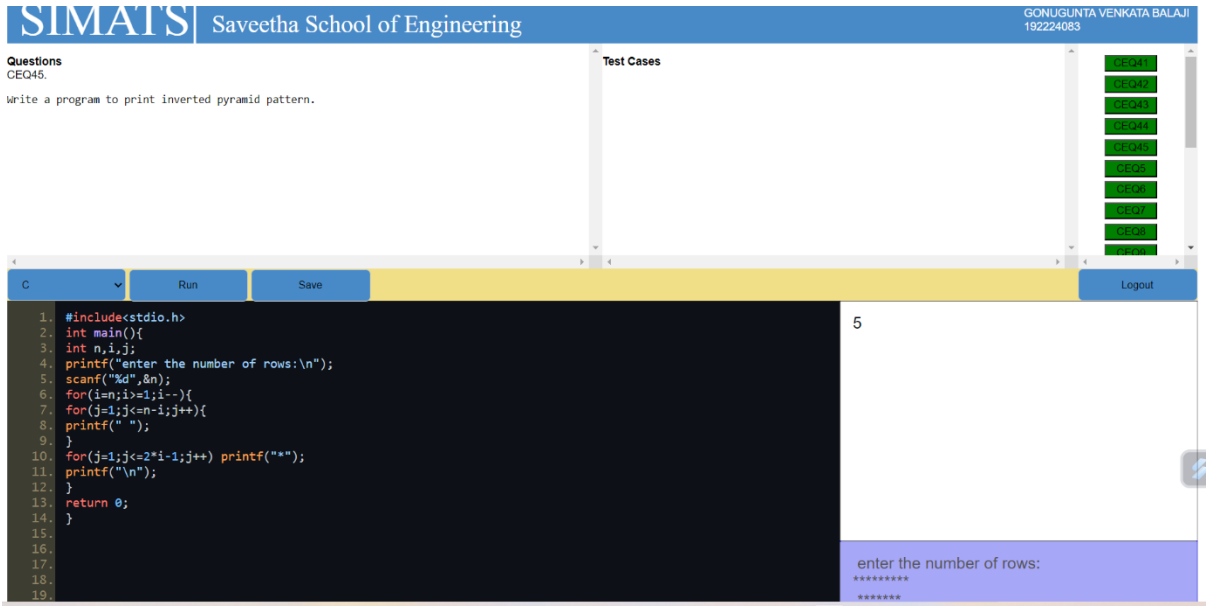
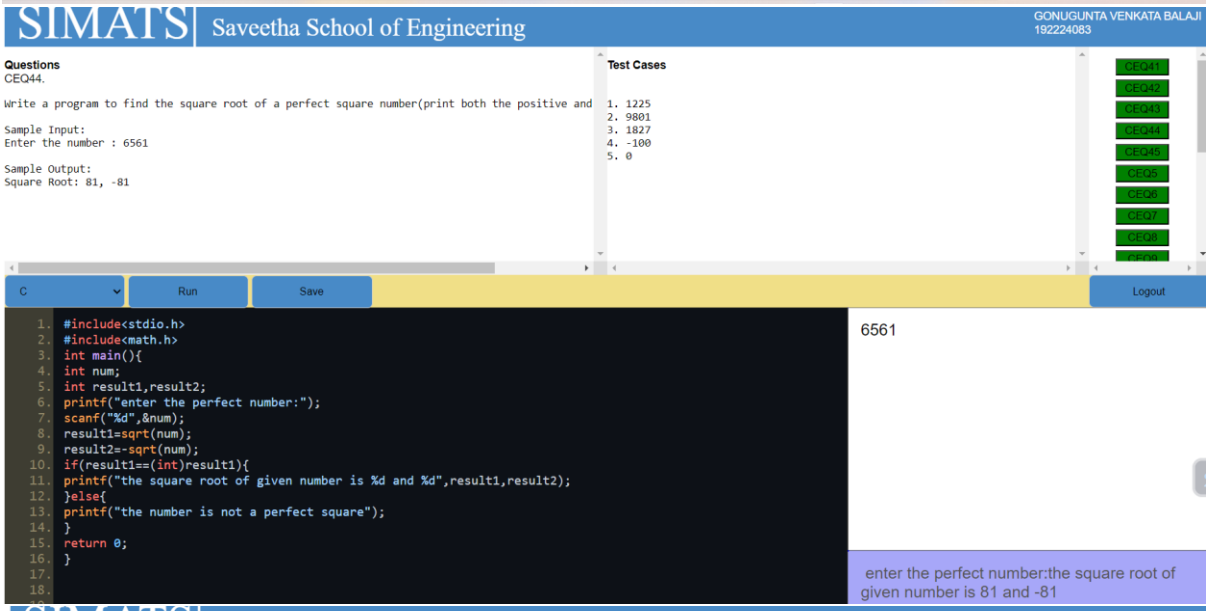
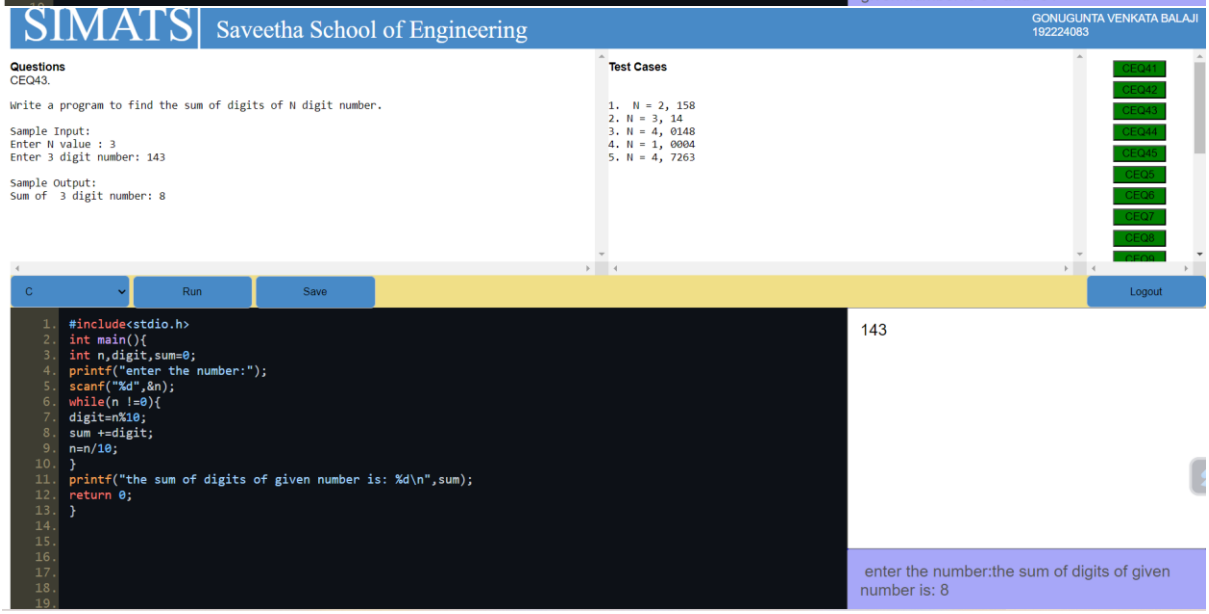
DAY 6 PRACTICE QUESTIONS

G .Venkata Balaji
192224083







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Questions
CEQ42.

Write a program to print hollow Rectangle Dollar pattern?

Test Cases

CEQ41 CEQ42 CEQ43 CEQ44 CEQ45 CEQ5 CEQ6 CEQ7 CEQ8

C | Run | Save | Logout

```c
#include<stdio.h>
int main(){
int rows,cols,i,j;
printf("enter the number of rows:\n");
scanf("%d",&rows);
printf("enter the number of columns:\n");
scanf("%d",&cols);
for(int i=1;i<=rows;i++){
for(int j=1;j<=cols;j++){
if(i==1|| i==rows || j==1||j==cols){
printf(" $ ");
}else{
printf("    ");
}
}
printf("\n");
}
return 0;
}
```

```
5
5
```

enter the number of rows:
enter the number of columns:

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Questions
CEQ41.

Write a program that accepts a string from user and displays the same string after removing vowels from it.

Sample Input & Output:
Enter a string: we can play the game
The string without vowels is: w cn ply thgm

Test Cases

CEQ41 CEQ42 CEQ43 CEQ44 CEQ45 CEQ5 CEQ6 CEQ7 CEQ8

C | Run | Save | Logout

```c
#include<stdio.h>
#include<string.h>
int main(){
char str[100],newstr[100];
int i,j;
printf("enter the string:");
gets(str);
j=0;
for(int i=0;i<strlen(str);i++){
if(str[i]!='a' && str[i]!='e' && str[i]!='i' && str[i]!='o' && str[i]!='u' && str[i]!='A' && str[i]!='E' && st
newstr[j]=str[i];
j++;
}
}
printf("the string after removing the vowels is %s",newstr[j]);
return 0;
```

Your Input Goes Here...!!!

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Questions
CHQ8.

Find the M^{th} maximum number and N^{th} minimum number in an array and then find the sum of it and

Sample Input:
Array of elements = {14, 16, 87, 36, 25, 89, 34}
M = 1
N = 3

Sample Output:
1st Maximum Number = 89
3rd Minimum Number = 25
Sum = 114
Difference = 64

Test Cases

1. {16, 16, 16 16, 16}, M = 0, N = 1
2. {0, 0, 0, 0}, M = 1, N = 2
3. {-12, -78, -35, -42, -85}, M = 3 , N = 3
4. {15, 19, 34, 56, 12}, M = 6 , N = 3
5. {85, 45, 65, 75, 95}, M = 5 , N = 7

CMQ4 CMQ5 CMQ6 CMQ7 CMQ8 CHQ4 CHQ5 CHQ6 CHQ7 CHQ8

C | Run | Save | Logout

```c
#include<stdio.h>
#include<conio.h>
int main(){
int a[1000],i,n,min,max;
printf("enter the size of the array : \n")1;
scanf("%d",&n);
printf("enter elements in array: \n");
for (i=0;i<n;i++);
{
scanf("%d",&a[i]);
}
min=max=a[0];
for(i=1;i<n;++)
{
if(min>a[i]);
   min=a[i]);
```

```
14,16,87,36,25,89,34
1
3
```

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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

CMQ4 CMQ5 CMQ6 CMQ7 CMQ8 CHQ4 CHQ5 CHQ6 CHQ7 CHQ8

C | Run | Save | Logout

```c
#include<stdio.h>
#include<math.h>
int main(){
int num,sum=0,originalnum,digit,numdigits=0;
printf("enter a number:\n");
scanf("%d",&num);
originalnum=num;
while (num>0){
num/=10;
numdigits++;
}
num=originalnum;
while(num>0){
digit=num%10;
sum+=pow(digit,numdigits);
num/=10;
```

Your Input Goes Here...!!!

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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
2   3   4   5   4   3   2   1
```

Test Cases

CEQ41 CEQ42 CEQ43 CEQ44 CEQ45 CEQ5 CEQ6 CEQ7 CEQ8

C | Run | Save | Logout

```c
#include<stdio.h>
int main(){
int rows=5;
for (int i=0;i<rows;i++){
    for (int j=o;j<2*(rows-i)-1;j++){
     printf(" ");

}
for(int k=0;k<2*i+1;k++){
printf(" %d",k+1);
}
printf("\n");
}
return 0;
}
```

Your Input Goes Here...!!!

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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

CMQ4 CMQ5 CMQ6 CMQ7 CMQ8 CHQ4 CHQ5 CHQ6 CHQ7 CHQ8

C | Run | Save | Logout

```c
#include<stdio.h>
int binary_search(int arr[],int n, int target) {
int l=0, r = n-1;
while(l<=r){
int mid =(l+r)/2;
if(arr[mid] == target) return mid;
else if (arr[mid] <target)l=mid+1;
else r =mid-1;
}
return -1;
}
int main() {
int arr[]={1,3,5,7,9,11,13,15},target =9;
int n=arr[]=sizeof(arr) / sizeof(int),index=binary_search(arr,n,target);
if(index == -1) printf("element not found\n");
else printf("element found at index %d\n",index);
return 0;
}
```

Your Input Goes Here...!!!

<pre>ExecutionFolder/192224083.c: In function 'binary_search':

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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

```c
#include<stdio.h>
int main(){
int n,count=0,num=2;
printf("enter the value of n:");
scanf("%d",&n);
while (count<n){
int isprime=1;
for(int i=2;i*i<=num;i++){
if(num%i==0){
isprime=0;
break;
}
}
if(isprime){
printf("%d",num);
count++;
}
num++;
```

3

enter the value of n:235
the 3th prime number is:5

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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)

CEQ7 CEQ8 CEQ9 CMQ4 CMQ5 CMQ6 CMQ7 CMQ8 CHQ4 CHQ5

C | Run | Save | Logout

```c
#include<stdio.h>
struct student{
char name[50];
int age;
};
void displaystudent(struct student s){
printf("name:%s\n",s.name);
printf("age:%d\n",s.age);
}
int main(){
struct student student1;
printf("enter name:\n");
scanf("%s",student1.name);
printf("enter age:\n");
scanf("%d",&student1.age);
displaystudent(student1);
return 0;
}
```

Your Input Goes Here...!!!

<pre>ExecutionFolder/192224083.c: In function 'main':

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Questions
CMQ7.

Write a C program to display the subject and mark information using Dynamic Memory Allocation for Structure.

Sample Input:
Enter the number of records: 2
Enter subject 1 and marks:
Science 82
Enter subject 2 and marks:
DSA 73

Sample Output :
Science 82
DSA 73

Test Cases

Enter the number of records :4 (Any details of subject and marks)
Enter the number of records :A
Enter the number of records :1 (CPP 74.5)
Enter the number of records :1 (CPP seventy)
Enter the number of records :1 (233 75)

CEQ7 CEQ8 CEQ9 CMQ4 CMQ5 CMQ6 CMQ7 CMQ8 CHQ4 CHQ5

C | Run | Save | Logout

```c
#include<stdio.h>
#include<stdlib.h>
struct student{
char subject[20];
int marks;
};
int main(){
int n;
struct student *ptr;
printf("enter the number of subjects:");
scanf("%d",&n);
ptr=(struct student*)malloc(n*sizeof(struct student));
printf("enter subject and marks for %d subjects:\n",n);
for(int i=0;i<n;i++){
printf("subject %d: ",i+1);
scanf("%s",ptr[i].subject);
printf("marks:");
scanf("%d",&ptr[i].marks);
```

2
82
73

enter the number of subjects:enter subject and marks for 2 subjects:

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Questions
CMQ6.

Write a program to print the longest word in the below text "Programming does wonders in the world".

Test Cases

CEQ7 CEQ8 CEQ9 CMQ4 CMQ5 CMQ6 CMQ7 CMQ8 CHQ4 CHQ5

C | Run | Save | Logout

```c
#include<stdio.h>
#include<string.h>
int main(){
char text[]="programming does wonders in the world";
char*word, *longest_word;
int len=0,longest_len=0;
word = strtok(text, " ");
while(word !=NULL){
len=strlen(word);
if(len>longest_len) {
longest_len=len;
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

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Questions
CMQ5.

Write a program to find the number of student users in the college, get the total users, staff

Sample Input:

Total Users: 856

Staff Users: 126

Sample Output:

Student Users: 688

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

CEQ7 CEQ8 CEQ9 CMQ4 CMQ5 CMQ6 CMQ7 CMQ8 CHQ4 CHQ5

C | Run | Save | Logout

```c
#include<stdio.h>
int main(){
int total_user,staff_user,nonteach_staffuser;
printf("enter the total number of staff users");
scanf("%d",&total_user);
printf("enter the staff users");
scanf("%d",&staff_user);
nonteach_staffuser=staff_user/3;
int student_user=total_user-staff_user-nonteach_staffuser;
printf("the number of student users are:%d",student_user);
return 0;
}
```

856
126

enter the total number of staff usersenter the staff usersthe number of student users

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Questions
CMQ4.

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

All Even Numbers = 8,10,12,14

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

CEQ7 CEQ8 CEQ9 CMQ4 CMQ5 CMQ6 CMQ7 CMQ8 CHQ4 CHQ5

C | Run | Save | Logout

```c
#include<stdio.h>
int main(){
int m,n,i;
printf("enter the start and end of the range:");
scanf("%d %d,&m,&n);
printf("even numbers between %d and %d are:",m,n);
for(i=m;i<=n;i++){
if(i%2==0) printf("%d",i);
}
printf("odd numbers are:");
for(i=m;i<n;i++){
if(i%2!=0) printf("%d",i);
}
return 0;
}
```

Your Input Goes Here...!!!

<pre>ExecutionFolder/192224083.c: In

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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,
Sum of numbers at even indexes = 0 + 1 + 3 + 8 + 21 = 33)

Test Cases

CEQ5 CEQ6 CEQ7 CEQ8 CEQ9 CMQ4 CMQ5 CMQ6 CMQ7

C | Run | Save | Logout

```c
#include<stdio.h>
int main(){
int n,sum=0;a=0,b=1,c=0;
printf("enter the value of n:");
scanf("%d",&n);
while(c<=n){
if(c%2==0)
sum+=c;
a=b;
b=c;
c=a+b;
}
printf("the sum of even fibonacci is %d",sum);
return 0;
}
```

Your Input Goes Here...!!!

<pre>ExecutionFolder/192224083.c: In function 'main':

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Questions
CEQ6.

Write a program to print Right Triangle Star Pattern.

Sample Input:: n = 5
Output:

```
    *
   * *
  * * *
 * * * *
* * * * *
```

Test Cases

CEQ41 CEQ42 CEQ43 CEQ44 CEQ45 CEQ5 CEQ6 CEQ7 CEQ8

C | Run | Save | Logout

```c
#include<stdio.h>
int main(){
int n,rows,cols,space;
printf("enter the range n:\n");
scanf("%d",&n);
for (rows=1;rows<n;rows++){
for (cols=1;cols<n-rows+2;cols++){
printf("  ");
}
for(space=1;space<=rows;space++){
printf("* ",n-rows+2);
}
printf("\n");
}
return 0;
}
```

5

enter the range n:

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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
Total to be paid:55000.0

Test Cases

1. Enter the grade of the employee: A
Enter the employee salary: 8000
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

CMQ4 CMQ5 CMQ6 CMQ7 CMQ8 CHQ4 CHQ5 CHQ6 CHQ7 CHQ8

C | Run | Save | Logout

```c
#include<stdio.h>
int main(){
float salary,bonus;
char grade;
printf("enter the grade of employee:");
scanf("%d",&grade);
printf("enter the salary of the employee:");
scanf("%f",&salary);
if(grade =='A') bonus=0.05*salary;
else if(grade=='B') bonus=0.10*salary;
if(salary<10000) bonus=0.02*salary;
float final_salary=salary+bonus;
printf("salary =%d",salary);
printf("bonus =%.2f",bonus);
printf("final salary=%.2f",final_salary);
return 0;
}
```

B
50000

enter the grade of employee:enter the salary

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