

# DAY 6 PRACTICE QUESTIONS

N.SUNIL 192224076

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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 games  
The string without vowels is: w cn ply thgm

Test Cases

CEQ41  
CEQ42  
CEQ43  
CEQ44  
CEQ45  
CEQ46  
CEQ47  
CEQ48  
CEQ49

C Run Save Logout

```
1. #include<stdio.h>
2. #include<string.h>
int main() {
    char str[100],newstr[100];
    int i,j;
    printf("enter the string: \n");
    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' && str[i]!='I' && str[i]!='O' && str[i]!='U'){
            newstr[j]=str[i];
            j++;
        }
    }
    printf("the string after removing the vowels is %s",newstr[j]);
    return 0;
}
```

we can play the games

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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  
6. N = 7.2

CHQ4  
CHQ5  
CHQ6  
CHQ7  
CHQ8  
CHQ9  
CHQ10  
CHQ11  
CHQ12  
CHQ13  
CHQ14  
CHQ15  
CHQ16  
CHQ17  
CHQ18  
CHQ19  
CHQ20  
CHQ21  
CHQ22  
CHQ23  
CHQ24  
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CHQ81  
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CHQ85  
CHQ86  
CHQ87  
CHQ88  
CHQ89  
CHQ90  
CHQ91  
CHQ92  
CHQ93  
CHQ94  
CHQ95  
CHQ96  
CHQ97  
CHQ98  
CHQ99  
CHQ100

C Run Save Logout

```
1. #include<stdio.h>
2. int main(){
3.     int n,count=0,num=2;
4.     printf("enter the value of n:");
5.     scanf("%d",&n);
6.     while (count<n){
7.         int isprime=1;
8.         for(int i=2;i<=num;i++){
9.             if(num%i==0){
10.                isprime=0;
11.                break;
12.            }
13.        }
14.        if(isprime){
15.            printf("%d",num);
16.            count++;
17.        }
18.        num++;
19.    }
20. }
```

3

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

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Questions  
CEQ42.

Write a program to print hollow Rectangle Dollar pattern?

Test Cases

CEQ41  
CEQ42  
CEQ43  
CEQ44  
CEQ45  
CEQ46  
CEQ47  
CEQ48  
CEQ49  
CEQ50  
CEQ51  
CEQ52  
CEQ53  
CEQ54  
CEQ55  
CEQ56  
CEQ57  
CEQ58  
CEQ59  
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CEQ61  
CEQ62  
CEQ63  
CEQ64  
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CEQ67  
CEQ68  
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CEQ91  
CEQ92  
CEQ93  
CEQ94  
CEQ95  
CEQ96  
CEQ97  
CEQ98  
CEQ99  
CEQ100

C Run Save Logout

```
1. #include<stdio.h>
2. 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");
    }
}
```

5

5

enter the number of rows:

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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

C

Run

Save

Logout

```
1. #include<stdio.h>
2. int main() {
    int n,digit,sum=0;
    printf("enter a number: \n");
    scanf("%d",&n);
    while(n!=0){
        digit=n%10;
        sum+=digit;
        n=n/10;
    }
    printf("the sum of digits of given number is %d\n",sum);
    return 0;
}
```

143

enter a number:

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Questions

CEQ44.

Write a program to find the square root of a perfect square number(print both the positive and

Sample Input:  
Enter the number : 6561

Sample Output:  
Square Root: 81, -81

Test Cases

1. 1225  
2. 9801  
3. 1827  
4. -100  
5. 0

C

Run

Save

Logout

```
1. #include<stdio.h>
2. #include<math.h>
int main(){
    int num;
    int result1,result2;
    printf("enter the perfect number: \n");
    scanf("%d",&num);
    result1=sqrt(num);
    result2=-sqrt(num);
    if (result1==(int)result1){
        printf("the squareroot of given number is %d and %d",result1,result2);
    }else{
        printf("the number is not a perfect square");
    }
    return 0;
}
```

6561

Your OUTPUT Goes Here - III

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Questions

CEQ45.

Write a program to print inverted pyramid pattern.

Test Cases

CEQ41  
CEQ42  
CEQ43  
CEQ44  
CEQ45  
CEQ6  
CEQ7  
CEQ8  
CEQ9

C

Run

Save

Logout

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

5

enter the number of rows:

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Questions

CEQ6.

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}

C

Run

Save

Logout

```
1. #include<stdio.h>
2. 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: \n");
    scanf("%d",&n);
    int arr[n];
    printf("enter %d numbers: \n",n);
    for(int i=0;i<n;i++) scanf("%d",&arr[i]);
    int gcd result=arr[0];
```

2  
16  
20

enter the number of elements:

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Questions

CEQ6.

Write a program to print Right Triangle Star Pattern.  
Sample Input:: n = 5  
Output:  
\*  
\* \*  
\* \* \*  
\* \* \* \*  
\* \* \* \* \*

Test Cases

1. CEQ41  
2. CEQ42  
3. CEQ43  
4. CEQ44  
5. CEQ45  
6. CEQ46  
7. CEQ47  
8. CEQ48  
9. CEQ49  
10. CEQ50

C

Run

Save

Logout

```
1. #include<stdio.h>
2. 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

CEQ7.

Write a program to print the below pattern?  
  
1  
1 2  
1 2 3  
1 2 3 4  
1 2 3 4 5  
4 3 2 1  
3 2 1  
2 1  
1

Test Cases

1. CEQ41  
2. CEQ42  
3. CEQ43  
4. CEQ44  
5. CEQ45  
6. CEQ46  
7. CEQ47  
8. CEQ48  
9. CEQ49  
10. CEQ50

C

Run

Save

Logout

```
1. #include<stdio.h>
2. int main(){
    int rows=5;
    for (int i=0;i<rows;i++){
        for (int j=0;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....!!!

1

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Questions

CEQ8.

Write a program using function to calculate the simple interest. Suppose the customer is a senior citizen. He is being offered 12 percent rate of interest; for all other customers, the ROI is 10 percent.

Sample Input:  
Enter the principal amount: 200000  
Enter the no of years: 3  
Is customer senior citizen (y/n): n

Sample Output:  
Interest: 60000

Test Cases

1. Principal: 2000 , Years: 0  
2. Principal: 20000 , Years: -2  
3. Principal: -2000 , Years: 2  
4. Principal: 2 , Years: 2000  
5. Principal: 0 , Years: 5

C

Run

Save

Logout

```
1. #include<stdio.h>
2. int main(){
    int amount,years,interest;
    char citizen;
    printf("enter the principal amount: \n");
    scanf("%d",&amount);
    printf("enter the number of years: \n");
    scanf("%d",&years);
    printf("is customer is senior citizen(y/n): \n");
    scanf("%c",&citizen);
    if(citizen=='y'){
        interest=amount*0.12*years;
        printf("interest: %d\n",interest);
    }
    else if(citizen=='n'){
        interest=amount*0.10*years;
    }
}
```

200000  
3  
n

enter the principal amount:

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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

1. Principal: 2000 , Years: 0  
2. Principal: 20000 , Years: -2  
3. Principal: -2000 , Years: 2  
4. Principal: 2 , Years: 2000  
5. Principal: 0 , Years: 5

C

Run

Save

Logout

```
1. #include<stdio.h>
2. int main(){
    int n,sum=0,a=0,b=1,c=0;
    printf("enter the value of n: \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;
}
```

4

enter the value of n:

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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

C

Run

Save

Logout

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

6  
15

enter the start and end of the range:

# DAY 6 PRACTICE QUESTIONS

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Questions

CMQ6.

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

CMQ4  
CMQ5  
CMQ6  
CMQ7  
CMQ8  
CHQ4  
CHQ5  
CHQ6  
CHQ7  
CHQ8

C

Run

Save

Logout

```
1. #include<stdio.h>
2. int main(){
    int total_user,staff_user,nonteach_staffuser;
    printf("enter the total number of staff users:\n");
    scanf("%d",&total_user);
    printf("enter the staff users: \n");
    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

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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

CMQ4  
CMQ5  
CMQ6  
CMQ7  
CMQ8  
CHQ4  
CHQ5  
CHQ6  
CHQ7  
CHQ8

C

Run

Save

Logout

```
1. #include<stdio.h>
2. #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);
}
```

Your Input Goes Here....!!!  
  
the longest word is: programming

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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)

CMQ4  
CMQ5  
CMQ6  
CMQ7  
CMQ8  
CHQ4  
CHQ5  
CHQ6  
CHQ7  
CHQ8

C

Run

Save

Logout

```
1. #include<stdio.h>
2. 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);
}
```

aaa  
25  
  
enter name:



# DAY 6 PRACTICE QUESTIONS

## 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

```
1. #include<stdio.h>
2. #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;
    }
```

371

enter a number:

## 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

CHQ5  
CHQ6  
CHQ7  
CHQ8  
CHQ9  
CHQ10  
CHQ11  
CHQ12  
CHQ13  
CHQ14  
CHQ15  
CHQ16  
CHQ17  
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C Run Save Logout

```
1. #include<stdio.h>
2. int main(){
3.     float salary,bonus;
4.     char grade;
5.     printf("enter the grade of employee:");
6.     scanf("%d",&grade);
7.     printf("enter the salary of the employee:");
8.     scanf("%f",&salary);
9.     if(grade == 'A') bonus=0.05*salary;
10.    else if(grade=='B') bonus=0.10*salary;
11.    if(salary<10000) bonus=0.02*salary;
12.    float final_salary=salary+bonus;
13.    printf("salary =%d",salary);
14.    printf("bonus =%.2f",bonus);
15.    printf("final salary=%.2f",final_salary);
16.    return 0;
17. }
```

B  
50000

enter the grade of employee:enter the salary

## 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 (C++ seventy)  
Enter the number of records :1 (233 75)

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CHQ415

# DAY 6 PRACTICE QUESTIONS

SIMATS

Saveetha School of Engineering

NAGARAM SUNIL  
192224076

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

```
1. #include<stdio.h>
2. 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=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);
}
```

Your Input Goes Here...!!!

c:\Program Files\Foxit Software\Foxit Reader\Foxit Reader.exe

SIMATS

Saveetha School of Engineering

NAGARAM SUNIL  
192224076

Questions  
CHQ8.

Find the M<sup>th</sup> maximum number and N<sup>th</sup> 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

CMQ4

CMQ5

CMQ6

CMQ7

CMQ8

CHQ4

CHQ5

CHQ6

CHQ7

CHQ8

C

Run

Save

Logout

```
1. #include<stdio.h>
2. #include<conio.h>
int main(){
    int a[1000],i,n,min,max;
    printf("enter the size of the array : \n");
    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;i++)
    {
        if(min>a[i])
            min=a[i];
    }
}
```

7  
14  
16  
87  
36  
25  
89  
34

enter the size of the array :