# 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 game
The string without vowels is: w cn ply thgm

**Test Cases**

CEQ41 CEQ42 CEQ43 CEQ44 CEQ45 CEQ5 CEQ6 CEQ7 CEQ8 CEQ9

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: \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' && st
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
5. N = 7.2

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**
CEQ42.

Write a program to print hollow Rectangle Dollar pattern?

**Test Cases**

CEQ41 CEQ42 CEQ43 CEQ44 CEQ45 CEQ5 CEQ6 CEQ7 CEQ8 CEQ9

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");
```

```
5
5
enter the number of rows:
```

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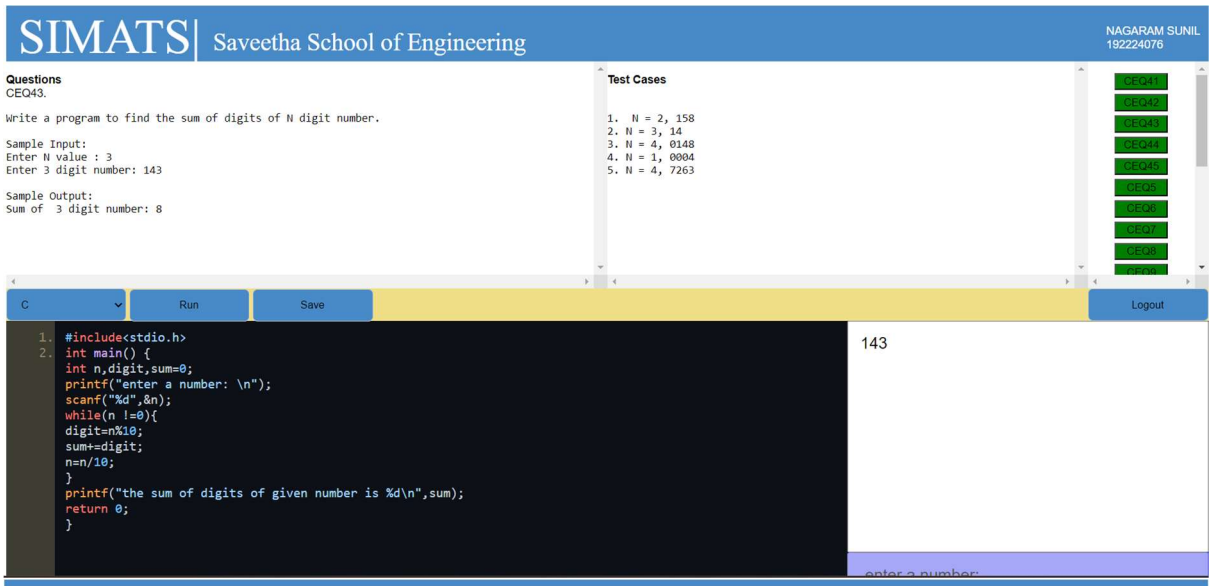


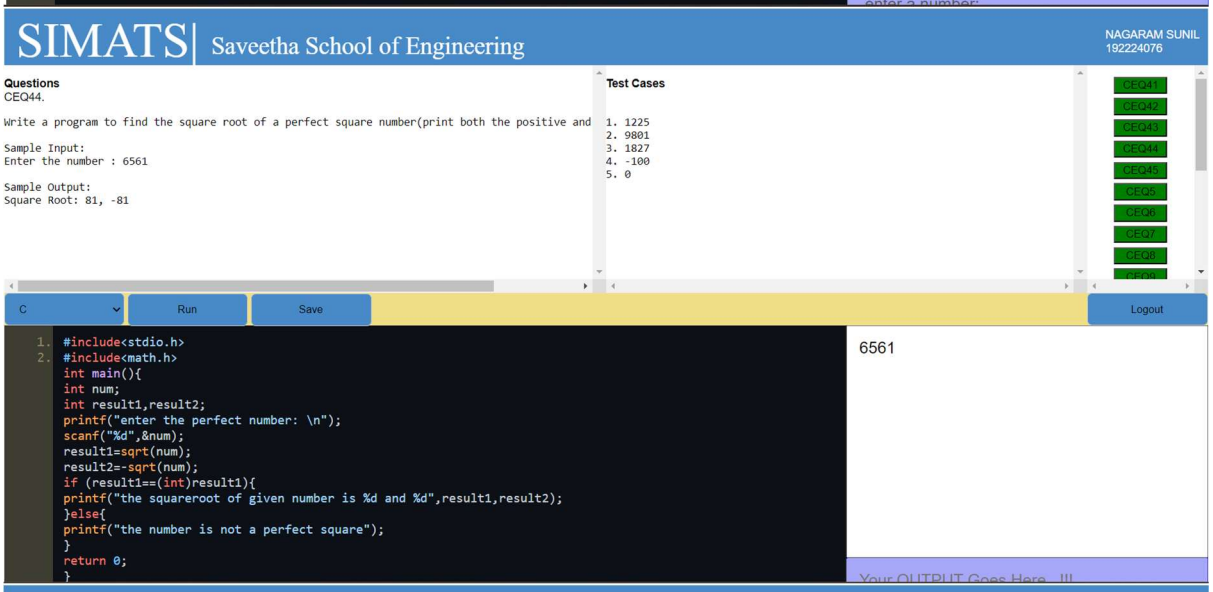


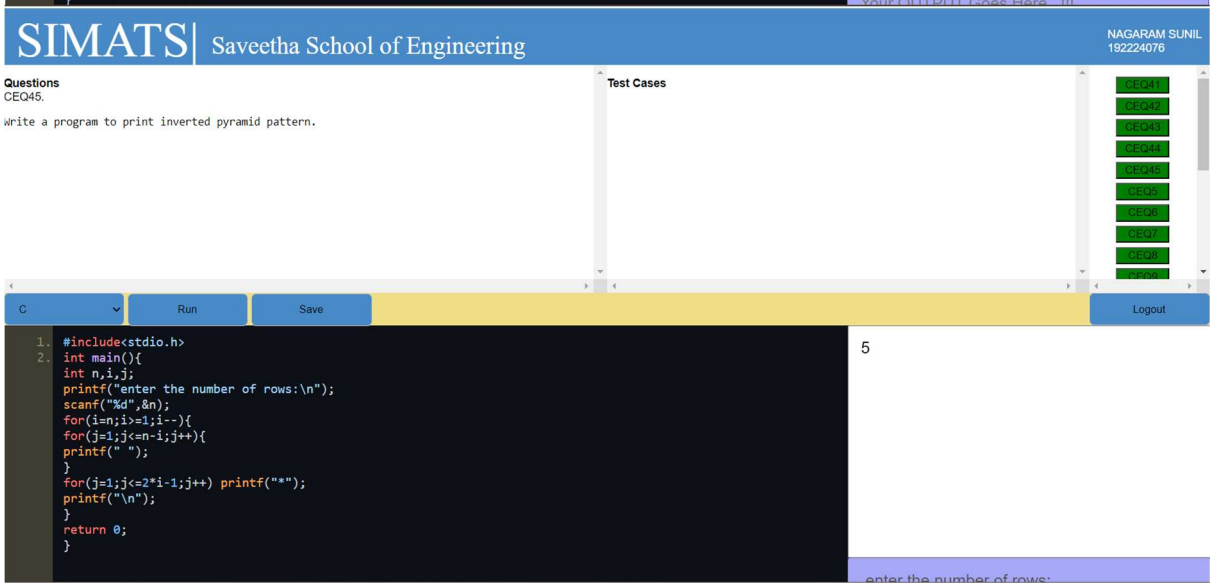

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**Questions**
CEQ5.

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

C | Run | Save | Logout

```c
#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: \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**

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**
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**

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=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

CEQ41 CEQ42 CEQ43 CEQ44 CEQ45 CEQ5 CEQ6 CEQ7 CEQ8

C | Run | Save | Logout

```c
#include<stdio.h>
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**

CEQ44 CEQ45 CEQ5 CEQ6 CEQ7 CEQ8 CEQ9 CMQ4 CMQ5

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: \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

CEQ44 CEQ45 CEQ5 CEQ6 CEQ7 CEQ8 CEQ9 CMQ4 CMQ5

C | Run | Save | Logout

```c
#include<stdio.h>
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:

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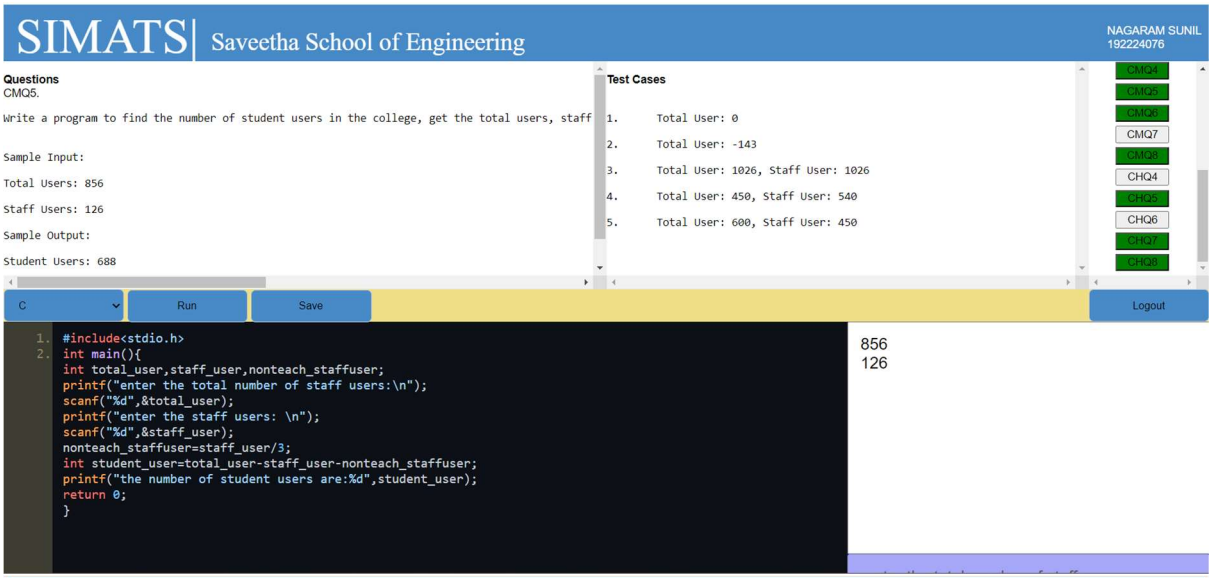


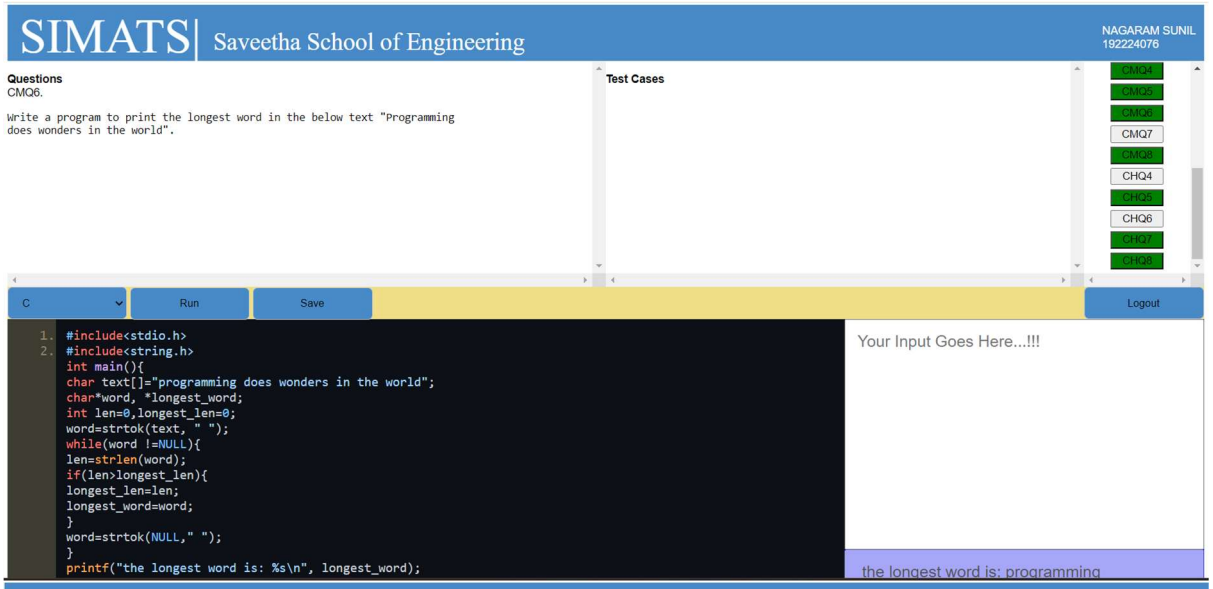


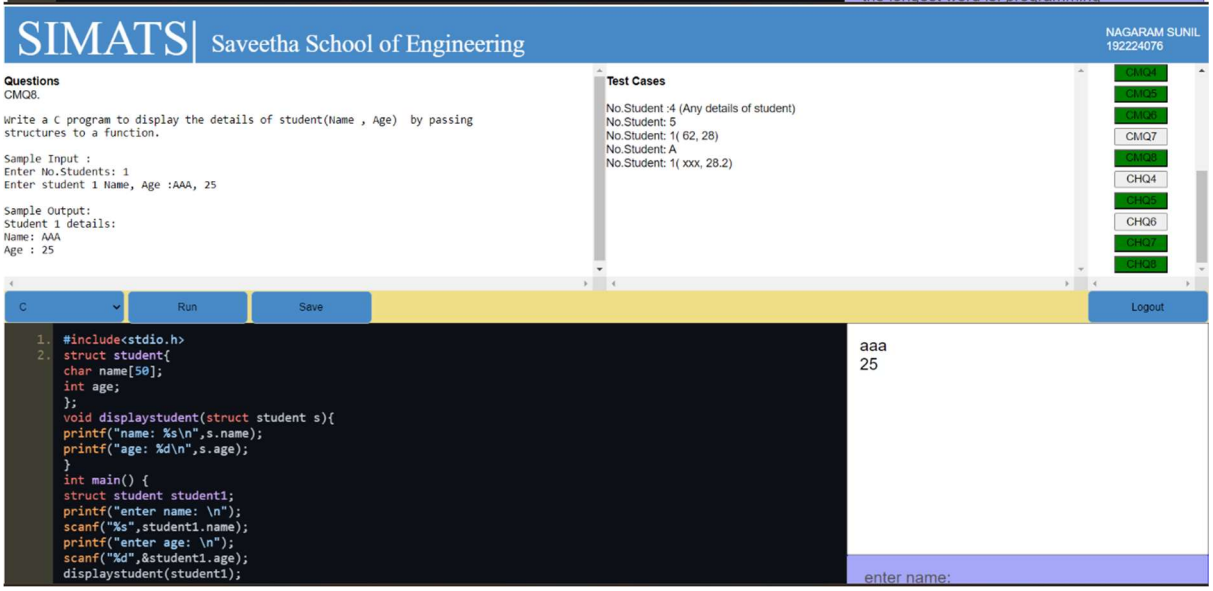

# DAY 6 PRACTICE QUESTIONS

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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;
```

371

enter a number:

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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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**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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