

DAY 6 PRACTICE QUESTIONS

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192211166

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MUPPIRALA HITESH BABU
192211166

Questions
CMQ6.

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

Test Cases

C

Run

Save

Logout

```
1. #include<stdio.h>
2. #include<string.h>
3. int main(){
4. char text[]="programming does wonders in the world";
5. char word,longest_word;
6. int len=0;longest_len=0;
7. word=strtok(text," ");
8. while(word !=NULL){
9. len=strlen(word);
10. if(len>longest_len)
11. longest_len =len;
    longest_word=word;
    }
    word = strtok(NULL," ");
    printf("The longest word is: %s",longest_word);
    return 0;
```

Your Input Goes Here....!!!

<pre>ExecutionFolder/192211166.c: In

Q1

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Questions
CMQ7.

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

Test Cases

C

Run

Save

Logout

```
1. #include<stdio.h>
2. #include<stdlib.h>
3. struct student{
4. char subject[20];
5. int marks;
6. };
7. int main(){
8. int n;
9. struct student*ptr;
10. printf("Enter the number of subjects:");
11. scanf("%d",&n);
    ptr=(struct student*)malloc(n*sizeof(struct student));
    printf("Enter the subject and marks:");
    for(int i=0;i<n;i++){
        printf("subject %d",i+1);
        scanf("%s" ntrfil <subject>);
```

2
science 82
maths 74

Enter the number of subjects:Enter the

Q2

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Questions
CMQ5.
Write a program to find the number of student users in the college, get the total u
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
CMQ7
CMQ8
CHQ4
CHQ5

Logout

C Run Save

```
1. #include<stdio.h>
2. int main(){
3.     int total_user,staff_user,nonteach_staffuser;
4.     printf("Enter the total number of staff users");
5.     scanf("%d",&total_user);
6.     printf("Enter the staff users");
7.     scanf("%d",&staff_user);
8.     nonteach_staffuser=staff_user/3;
9.     int student_user=total_user-staff_user-nonteach_staffuser;
10.    printf("The number of student users are:%d",student_user);
11.    return 0;
}
```

856
126

Enter the total number of staff

Q3

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

Test Cases

CEQ7
CEQ8
CEQ9
CMQ4
CMQ5
CMQ6
CMQ7
CMQ8
CHQ4
CHQ5

Logout

C Run Save

```
1. #include<stdio.h>
2. int main(){
3.     int n,sum=0;a=0,b=1,c=0;
4.     printf("Enter the value of n:");
5.     scanf("%d",&n);
6.     while(c<=n){
7.         if(c%2==0)
8.             sum +=c;
9.         a=b;
10.        b=c;
11.        c =a+b;
    }
    printf("the sum of even Fibonacci numbers is %d",sum);
    return 0;
}
```

Your Input Goes Here...!!!

Enter the number of rows:*

Q4

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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

CHQ8
CHQ9
CHQ5
CHQ7
CHQ8

Run Save Logout

```
1. #include<stdio.h>
2. int binary_search(int arr[],int n, int target) {
3.     int l=0, r = n-1;
4.     while(l<=r){
5.         int mid =(l+r)/2;
6.         if(arr[mid] == target) return mid;
7.         else if (arr[mid] <target)l=mid+1;
8.         else r =mid-1;
9.     }
10.    return -1;
11. }
12. int main() {
13.     int arr[]={1,3,5,7,9,11,13,15},target =9;
14.     int n=arr[sizeof(arr) / sizeof(int),index=binary_search(arr,n,target);
15.     if(index == -1) printf("element not found\n");
16.     else printf("element found at index %d\n",index);
17.     return 0;
18. }
```

Your Input Goes Here....!!!

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

Q5

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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

CHQ8
CHQ9
CHQ5
CHQ7
CHQ8

Run Save Logout

```
1. #include<stdio.h>
2. int gcd(int a, int b){
3.     if(b==0) return a;
4.     return gcd(b,a%b);
5. }
6. int lcm(int a,int b){
7.     return (a*b)/gcd(a,b);
8. }
9. int main(){
10.    int n;
11.    printf("enter the number of elements: \n");
12.    scanf("%d",&n);
13.    int arr[n];
14.    printf("enter %d numbers:\n",n);
15.    for(int i=0;i<n;i++) scanf("%d",&arr[i]);
16.    int gcd_result=arr[0];
17.    int lcm_result=arr[0];
18.    for (int i=1;i<n;i++){
```

Your Input Goes Here....!!!

enter the number of elements:
enter 0 numbers:

Q6

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Questions
CMQ4.
Write a program to print the all Odd numbers and number of even numbers in between
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

C Run Save Logout

```
1. #include<stdio.h>
2. int main(){
3. int M,N,i;
4. printf("Enter the start and end of the range:");
5. scanf("%d %d",&M,&N);
6. printf("Even numbers between %d and %d are:",M,N);
7. for(i=M;i<=N;i++){
8. if(i%2==0) printf("%d",i);
9. }
10. printf("odd numbers are:");
11. for(i=M;i<=N;i++){
12. if(i%2!=0) printf("%d",i);
13. }
14. return 0;
15. }
```

6 15

Enter the start and end of the

Q7

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Questions
CEQ45.
Write a program to print inverted pyramid pattern.

Test Cases

C Run Save Logout

```
1. #include<stdio.h>
2. int main(){
3. int n,i,j;
4. printf("Enter the number of rows:\n");
5. scanf("%d",&n);
6. for(i=n;i>=1;i--){
7. for(j=1;j<=n-i;j++){
8. printf(" ");
9. }
10. for(j=1;j<=2*i-1;j++) printf("*");
11. printf("\n");
12. }
13. return 0;
14. }
```

5

Enter the number of rows:*****

Q8

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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
CEQ9

C

Run

Save

Logout

```
1. #include<stdio.h>
2. int main(){
3. int n,i,j;
4. printf("Enter the number of rows:");
5. scanf("%d",&n);
6. for(i=1;i<=n;i++){
7. for(j=1;j<=i;j++) printf("**");
8. for(j=1;j<=i-n+2;j++) printf(" ");
9. printf("\n");
10. }
11. return 0;
}
```

Your Input Goes Here....!!!

Q9

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Questions
CEQ44.
Write a program to find the square root of a perfect square number(print both the p

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

```
1. #include<stdio.h>
2. #include<math.h>
3. int main(){
4. int num;
5. int result1,result2;
6. printf("Enter the perfect number:");
7. scanf("%d",&num);
8. result1=sqrt(num);
9. result2=-sqrt(num);
10. if(result1==(int)result1){
11. printf("The square root of given number is %d and %d",result1,result2);
}
else{
printf("The number is not a perfect square");
}
return 0;
}
```

Your Input Goes Here....!!!

Enter the number of rows:

Q10

DAY 6 PRACTICE QUESTIONS

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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

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: 50000
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

C Run Save Logout

```
1. #include<stdio.h>
2. int main(){
3. float salary,bonus;
4. char grade;
5. printf("Enter the grade of the employee:");
6. scanf("%s",&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;
    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 the employee:Enter

Q11

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Questions
CEQ7.
Write a program to print the below pattern?

1 2 3 4 5 4 3 2 1

Test Cases
CEQ7
CEQ7
CEQ7
CEQ7
CEQ7
CEQ7
CEQ7
CEQ7
CEQ7
CEQ7

C Run Save Logout

```
1. #include<stdio.h>
2. int main(){
3. int rows=5;
4. for(int i=0;i<rows;i++)
5. for(int j=0;j<2*(rows-i)-1;j++)
6. printf(" ");
7. for(int k=0;k<2*i+1;k++)
8. printf("%d",k+1);
9. printf("\n");
10. return 0;
11. }
```

Your Input Goes Here....!!!

Enter name:Enter the age:name: sunil

Q12

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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

CEQ46

CEQ47

CEQ48

CEQ49

C

Run

Save

Logout

```
1. #include<stdio.h>
2. #include<string.h>
3. int main(){
4. char str[100],newstr[100];
5. int i,j;
6. printf("Enter the string:");
7. scanf("%s",&str[i]);
8. j=0;
9. for(int i=0;i<strlen(str);i++){
10. if(str[i]!='a' && str[i]!='e' && str[i]!='i' && str[i]!='o' && str[i]!='u'
11. && 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 vowels is %s",newstr[j]);
```

Your Input Goes Here....!!!

Runtime Error

Q13

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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

CHQ4

CHQ5

CHQ6

CHQ7

CHQ8

CHQ9

CHQ10

CHQ11

CHQ12

CHQ13

CHQ14

CHQ15

CHQ16

CHQ17

CHQ18

CHQ19

CHQ20

CHQ21

CHQ22

CHQ23

CHQ24

CHQ25

CHQ26

CHQ27

CHQ28

CHQ29

CHQ30

CHQ31

CHQ32

CHQ33

CHQ34

CHQ35

CHQ36

CHQ37

CHQ38

CHQ39

CHQ40

CHQ41

CHQ42

CHQ43

CHQ44

CHQ45

CHQ46

CHQ47

CHQ48

CHQ49

CHQ50

CHQ51

CHQ52

CHQ53

CHQ54

CHQ55

CHQ56

CHQ57

CHQ58

CHQ59

CHQ60

CHQ61

CHQ62

CHQ63

CHQ64

CHQ65

CHQ66

CHQ67

CHQ68

CHQ69

CHQ70

CHQ71

CHQ72

CHQ73

CHQ74

CHQ75

CHQ76

CHQ77

CHQ78

CHQ79

CHQ80

CHQ81

CHQ82

CHQ83

CHQ84

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++;
```

3

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

Q14

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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

C

Run

Save

Logout

```
1. #include<stdio.h>
2. int main(){
3.     int rows,cols,i,j;
4.     printf("Enter the number of rows:\n");
5.     scanf("%d",&rows);
6.     printf("Enter the number of columns:\n");
7.     scanf("%d",&cols);
8.     for(int i=0;i<=rows;i++){
9.         for(int j=0;j<=cols;j++){
10.            if(i==1 || i==rows || j==1 || j==cols){
11.                printf(" $ ");
            }else{
                printf("   ");
            }
        }
        printf("\n");
    }
```

5
5

Enter the number of rows:

Q15

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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

CEQ41

CEQ42

CEQ43

CEQ44

CEQ45

CEQ46

CEQ47

CEQ48

CEQ49

C

Run

Save

Logout

```
1. #include<stdio.h>
2. int main(){
3.     int n,digit,sum=0;
4.     printf("Enter the digit number:\n");
5.     scanf("%d",&n);
6.     while(n!=0){
7.         digit=n%10;
8.         sum +=digit;
9.         n=n/10;
10.    }
11.    printf("the sum of digits of given number is: %d \n",sum);
12.    return 0;
13. }
```

143

Enter the digit number:

Q16

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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

CEQ45
CEQ46
CEQ47
CEQ48
CEQ49
CEQ50
CEQ51
CEQ52
CEQ53
CEQ54

C Run Save Logout

```
1. #include<stdio.h>
2. #include<math.h>
3. int main(){
4. int principal,years;
5. float interest;
6. char citizen;
7. printf("Enter the principal amount:");
8. scanf("%d",&principal);
9. printf("Enter the no of years:");
10. scanf("%d",&years);
11. printf("Is the customer senior citizen:");
    scanf("%s",&citizen);
    if(citizen=='y') interest=principal*years*0.12;
    else if(citizen=='n') interest=principal*years*0.10;
    printf("The interest is: %d", interest);
```

200000
3

Q17

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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

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)

CEQ45
CEQ46
CEQ47
CEQ48
CEQ49
CEQ50
CEQ51
CEQ52
CEQ53
CEQ54

C Run Save Logout

```
1. #include<stdio.h>
2. #include<stdlib.h>
3. struct student{
4. char subject[20];
5. int marks;
6. };
7. int main(){
8. int n;
9. struct student*ptr;
10. printf("Enter the number of subjects:");
11. scanf("%d",&n);
    ptr=(struct student*)malloc(n*sizeof(struct student));
    printf("Enter the subject and marks:");
    for(int i=0;i<n;i++){
        printf("subject %d",i+1);
        scanf("%s" ntrfil subject);
```

2
science 82
maths 74

Q18

DAY 6 PRACTICE QUESTIONS

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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.

C

Run

Save

Logout

```
1. #include<stdio.h>
2. #include<math.h>
3. int main(){
4. int num,sum=0,originalnum,digit,numdigits=0;
5. printf("enter a number: \n");
6. scanf("%d",&num);
7. originalnum=num;
8. while (num>0){
9. num/=10;
10. numdigits++;
11. }
12. num=originalnum;
13. while(num>0){
14. digit=num%10;
15. sum+=pow(digit,numdigits);
16. }
```

371

Q19

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Questions

CHQ8.

Find the N^{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

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

C

Run

Save

Logout

```
1. #include<stdio.h>
2. #include<conio.h>
3. int main(){
4. int a[1000],i,n,min,max;
5. printf("enter the size of the array : \n");
6. scanf("%d",&n);
7. printf("enter elements in array: \n");
8. for (i=0;i<n;i++){
9. {
10. scanf("%d",&a[i]);
11. }
12. min=max=a[0];
13. for(i=1; i<n;i++)
14. {
15. if(min>a[i])
```

7
14
16
87
36
25
89
34

Q20