

DAY 6 PRACTICE QUESTIONS

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Questions
CEQ45.

Write a program to print inverted pyramid pattern.

Test Cases

1. 5
2. 4
3. 3
4. 2
5. 1
6. 0

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:

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Questions
CEQ44.

Write a program to find the square root of a perfect square number(print both the positive and negative square root).
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>
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);
12.    }else{
13.        printf("the number is not a perfect square");
14.    }
15.    return 0;
16. }
```

6561

enter the perfect number:the square root of
given number is 81 and -81

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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(){
3.     int n,digit,sum=0;
4.     printf("enter the number:");
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 number:the sum of digits of given
number is: 8

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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

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=1;i<=rows;i++){
9.         for(int j=1;j<=cols;j++){
10.            if(i==1 || i==rows || j==1 || j==cols){
11.                printf("$ ");
12.            }else{
13.                printf(" ");
14.            }
15.        }
16.        printf("\n");
17.    }
18.    return 0;
19. }
```

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
CEQ46
CEQ47
CEQ48
CEQ49
CEQ50

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.     gets(str);
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' && str[i]!='A' && str[i]!='E' && str[i]!='I' && str[i]!='O' && str[i]!='U'){
11.            newstr[j]=str[i];
12.            j++;
13.        }
14.    }
15.    printf("the string after removing the vowels is %s",newstr[j]);
16.    return 0;
17. }
```

Your Input Goes Here....!!!

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Questions
HQ08.

Find the Mth maximum number and Nth 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

CEQ41
CEQ42
CEQ43
CEQ44
CEQ45
CEQ46
CEQ47
CEQ48
CEQ49
CEQ50

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.         scanf("%d",&a[i]);
10.    }
11.    min=max=a[0];
12.    for(i=1;i<n;i++){
13.        if(a[i]>min){
14.            min=a[i];
15.        }
16.    }
```

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

CHQ4
CHQ5
CHQ6
CHQ7
CHQ8

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.        num/=10;
17.    }
```

Your Input Goes Here....!!!

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Questions
REQ7.

Write a program to print the below pattern?

1 2 3 4 5 4 3 2 1
1 2 3 4 5 4 3 2 1
1 2 3 4 5 4 3 2 1
1 2 3 4 5 4 3 2 1

Test Cases

REQ4
REQ5
REQ6
REQ7
REQ8

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.         }
8.         for(int k=0;k<2*i+1;k++){
9.             printf(" %d",k+1);
10.        }
11.        printf("\n");
12.    }
13.    return 0;
14. }
```

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

CHQ4
CHQ5
CHQ6
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=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':

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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
CMQ9
CMQ10
CMQ11
CMQ12
CMQ13
CMQ14
CMQ15
CMQ16
CMQ17
CMQ18
CMQ19
CMQ20
CMQ21
CMQ22
CMQ23
CMQ24
CMQ25
CMQ26
CMQ27
CMQ28
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CMQ86
CMQ87
CMQ88
CMQ89
CMQ90
CMQ91
CMQ92
CMQ93
CMQ94
CMQ95
CMQ96
CMQ97
CMQ98
CMQ99
CMQ100

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*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.    }
```

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)

CMQ1
CMQ2
CMQ3
CMQ4
CMQ5
CMQ6
CMQ7
CMQ8
CMQ9
CMQ10
CMQ11
CMQ12
CMQ13
CMQ14
CMQ15
CMQ16
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CMQ18
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CMQ85
CMQ86
CMQ87
CMQ88
CMQ89
CMQ90
CMQ91
CMQ92
CMQ93
CMQ94
CMQ95
CMQ96
CMQ97
CMQ98
CMQ99
CMQ100

C

Run

Save

Logout

```
1. #include<stdio.h>
2. struct student{
3.     char name[50];
4.     int age;
5. };
6. void displaystudent(struct student s){
7.     printf("name:%s\n",s.name);
8.     printf("age:%d\n",s.age);
9. }
10. int main(){
11.     struct student student1;
12.     printf("enter name:\n");
13.     scanf("%s",student1.name);
14.     printf("enter age:\n");
15.     scanf("%d",&student1.age);
16.     displaystudent(student1);
17.     return 0;
18. }
```

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)

CMQ1
CMQ2
CMQ3
CMQ4
CMQ5
CMQ6
CMQ7
CMQ8
CMQ9
CMQ10
CMQ11
CMQ12
CMQ13
CMQ14
CMQ15
CMQ16
CMQ17
CMQ18
CMQ19
CMQ20
CMQ21
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CMQ87
CMQ88
CMQ89
CMQ90
CMQ91
CMQ92
CMQ93
CMQ94
CMQ95
CMQ96
CMQ97
CMQ98
CMQ99
CMQ100

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);
12.    ptr=(struct student*)malloc(n*sizeof(struct student));
13.    printf("enter subject and marks for %d subjects:\n",n);
14.    for(int i=0;i<n;i++){
15.        printf("subject %d: ",i+1);
16.        scanf("%s",ptr[i].subject);
17.        printf("marks:");
18.        scanf("%d",&ptr[i].marks);
19.    }
```

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

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

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CHQ94

CHQ95

CHQ96

CHQ97

CHQ98

CHQ99

CHQ100

CHQ101

CHQ102

CHQ103

CHQ104

CHQ105

CHQ106

CHQ107

CHQ108

CHQ109

CHQ110

CHQ111

CHQ112

CHQ113

CHQ114

CHQ115

CHQ116

CHQ117

CHQ118

CHQ119

CHQ120

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CHQ122

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CHQ405

CHQ406

CHQ407

CHQ408

CHQ409

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CHQ414

CHQ415

CHQ416

CHQ417

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192224083

Questions

CEQ09.

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

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;
12.    }
13.    printf("the sum of even fibonacci is %d",sum);
14.    return 0;
15. }
16.
17.

```

Logout

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

Test Case 1
Test Case 2
Test Case 3
Test Case 4
Test Case 5
Test Case 6
Test Case 7
Test Case 8
Test Case 9
Test Case 10

C

Run

Save

Logout

```
1. #include<stdio.h>
2. int main(){
3.     int n,rows,cols,space;
4.     printf("enter the range n:\n");
5.     scanf("%d",&n);
6.     for (rows=1;rows<n;rows++){
7.         for (cols=1;cols<n-rows+2;cols++){
8.             printf("  ");
9.         }
10.        for(space=1;space<rows;space++){
11.            printf(" ",n-rows+2);
12.        }
13.        printf("\n");
14.    }
15.    return 0;
16. }
```

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

C
Run
Save

```

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. }

```

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

C
Run
Save

```

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. }

```

DAY 6 PRACTICE QUESTIONS

G .Venkata Balaji

192224083

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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. #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:");
12. scanf("%s",&citizen);
13. if(citizen=='y') interest=principal*years*0.12;
14. else if(citizen=='y')interest=principal*years*0.10;
15. printf("the interest is: %.2f",interest);
16. return 0;
17. }
```

200000
3
n

enter the principal amount:enter the no of

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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}

C

Run

Save

Logout

```
1. #include<stdio.h>
2. int gcd(int a, int b){
3. if(b==0) return 0;
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: