

192211267

SIMATS

Saveetha School of Engineering

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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)

Q	Run	Save	Logout
<pre> 1. #include<stdio.h> 2. int main() 3. { 4. int numStudents, totalUsers, numStaff, numNonTeachingStaff, numStudentUsers; 5. printf("enter the number of student user: \n"); 6. scanf("%d", &numStudents); 7. printf("enter the total number of users: \n"); 8. scanf("%d", &totalUsers); 9. printf("enter the number of staff users: \n"); 10. scanf("%d", &numStaff); 11. printf("enter the number of non teaching staff users: \n"); 12. scanf("%d", &numNonTeachingStaff); 13. numStudentUsers=numStudents+(totalUsers-numStaff-numNonTeachingStaff); 14. printf("number of student users in the college is:\n", numStudentUsers); 15. return 0; 16. } 17. 18. 19. 20. 21. 22. 23. 24. </pre>	<div style="border: 1px solid #ccc; height: 150px; width: 100%;"></div>	<div style="border: 1px solid #ccc; height: 150px; width: 100%;"></div>	<div style="border: 1px solid #ccc; height: 150px; width: 100%;"></div>

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1. *Journal of the American Medical Association*, 2000; 283: 2689-2695.

```
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
```

chethna
12

[illegible]

Sample Output:
Reverse Number: 76541

1. -45721
2. 000
3. AD1947
4. !@#5%
5. 145*999=144855

14567

Questions
CMQ19

Write a program in C to print all perfect numbers in given range using the function.

Test Data :
Input lowest search limit of perfect numbers : 1
Input lowest search limit of perfect numbers : 100

Expected Output :
The perfect numbers between 1 to 100 are :
6
28

Test Cases

1. 17
2. 201
3. 143
4. 84.1
5. -983

CMQ22

CMQ23

CMQ24

CMQ25

C

Run

Save

Logout

```
1. #include<stdio.h>
int isperfect(int num);
int main(){
    int start,end,i;
    printf("Enter the start number and end number:");
    scanf("%d %d",&start,&end);
    printf("The perfect numbers between %d and %d are:",start,end);
    for(i=start;i<=end;i++){
        if(isperfect(i)){
            printf("%d\n",i);
        }
    }
    return 0;
}
```

1 100

Questions
CMQ18

Write a program in C to check whether a number is a prime number or not using the function.

Test Data :
Input a positive number : 5

Expected Output :
The number 5 is a prime number.

Test Cases

1. N = P
2. N = 0
3. N = -4
4. N = 11
5. N = 7.2

CMQ19

CMQ22

CMQ23

CMQ24

CMQ25

C

Run

Save

Logout

```
1. #include<stdio.h>
int isprime(int num){
    for(int i=2;i<=num/2;i++){
        if(num%i==0)
            return 0;
        return 1;
    }
    int main(){
        int num;
        printf("Enter the number");
        scanf("%d",&num);
        printf("%d %s a prime number.\n",num,isprime(num)? "is":"is not");
        return 0;
    }
}
```

Your Input Goes Here....!!!

Questions
CMQ17:

Write a program in C to compute the sum of all elements in an array using pointers.

Test Data :

Input the number of elements to store in the array (max 10) : 5

Input 5 number of elements in the array :

element - 1 : 2
element - 2 : 3
element - 3 : 4
element - 4 : 5
element - 5 : 6

Test Cases

1. N = 0 1 3 8 7 -5
2. N = 5 5 5 5 5 4
3. N = -2 -2 -4 -4
4. N = -5.55 30 0.5
5. N = 0 2 2 4 5 6

CMQ18

C Run Save Logout

```
1. #include<stdio.h>
int main(){
    int arr[5];
    int *ptr=arr;
    int sum=0;
    printf("Enter the 5 integer elements");
    for(int i=0;i<5;i++){
        scanf("%d",ptr+i);
    }
    for(int i=0;i<5;i++){
        sum +=*(ptr+i);
    }
    printf("The sum of the elements in the array is:%d",sum);
    return 0;
}
```

4
3
5
2
3

Questions
CMQ16:

Write a program in C to find the factorial of a given number using pointers.

Test Data :

Input a number : 5

Expected Output :

The Factorial of 5 is : 120

Test Cases

1. N = 0
2. N = -5
3. N = 1
4. N = M
5. N = %

CMQ17

CMQ18

C Run Save Logout

```
1. #include<stdio.h>
int factorial(int *n){
    int fact=120;
    for(int i=1;i<=*n;i++){
        fact *=i;
    }
    return fact;
}
int main(){
    int n,fact;
    printf("Enter the number:");
    scanf("%d",&n);
    fact=factorial(&n);
    printf("The factorial of given number is %d",fact);
}
```

5

Questions

CMQ15

Write a program in C to swap elements using call by reference.

Test Data :

Input the value of 1st element : 5

Input the value of 2nd element : 6

Input the value of 3rd element : 7

Expected Output :

The value before swapping are :

element 1 = 5

element 2 = 6

element 3 = 7

Test Cases

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

Test Case 11

Test Case 12

Test Case 13

Test Case 14

Test Case 15

Test Case 16

Test Case 17

Test Case 18

Test Case 19

Test Case 20

Test Case 21

Test Case 22

Test Case 23

Test Case 24

Test Case 25

Test Case 26

Test Case 27

Test Case 28

Test Case 29

Test Case 30

Test Case 31

Test Case 32

Test Case 33

Test Case 34

Test Case 35

Test Case 36

Test Case 37

Test Case 38

Test Case 39

Test Case 40

Test Case 41

Test Case 42

Test Case 43

Test Case 44

Test Case 45

Test Case 46

Test Case 47

Test Case 48

Test Case 49

Test Case 50

Test Case 51

Test Case 52

Test Case 53

Test Case 54

Test Case 55

Test Case 56

Test Case 57

Test Case 58

Test Case 59

Test Case 60

Test Case 61

Test Case 62

Test Case 63

Test Case 64

Test Case 65

Test Case 66

Test Case 67

Test Case 68

Test Case 69

Test Case 70

Test Case 71

Test Case 72

Test Case 73

Test Case 74

Test Case 75

Test Case 76

Test Case 77

Test Case 78

Test Case 79

Test Case 80

Test Case 81

Test Case 82

Test Case 83

Test Case 84

Test Case 85

Test Case 86

Test Case 87

Test Case 88

Test Case 89

Test Case 90

Test Case 91

Test Case 92

Test Case 93

Test Case 94

Test Case 95

Test Case 96

Test Case 97

Test Case 98

C

Run

Save

Logout

```
1. #include<stdio.h>
void swap(int *a,int *b,int *c){
    int temp=*a;
    *a=*b;
    *b=*c;
    *c=temp;
}
int main(){
    int num1,num2,num3;
    printf("Enter the 3 numbers to swap:");
    scanf("%d %d %d",&num1,&num2,&num3);
    printf("Before swap: num1=%d,num2=%d,num3=%d",num1,num2,num3);
    swap(&num1,&num2,&num3);
    printf("After swap: num1=%d,num2=%d,num3=%d",num1,num2,num3);
}
```

Your Input Goes Here....!!!

Questions

CMQ14

Write a program in C to store n elements in an array and print the elements using pointer.

Test Data :

Input the number of elements to store in the array :

Input 5 number of elements in the array :

element - 0 : 5

element - 1 : 7

element - 2 : 2

element - 3 : 9

element - 4 : 6

Expected Output :

Test Cases

1. N = 16
2. N = -3
3. N = 0
4. N = -10.01
5. N = 11.22

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

Test Case 11

Test Case 12

Test Case 13

Test Case 14

Test Case 15

Test Case 16

Test Case 17

Test Case 18

Test Case 19

Test Case 20

Test Case 21

Test Case 22

Test Case 23

Test Case 24

Test Case 25

Test Case 26

Test Case 27

Test Case 28

Test Case 29

Test Case 30

Test Case 31

Test Case 32

Test Case 33

Test Case 34

Test Case 35

Test Case 36

Test Case 37

Test Case 38

Test Case 39

Test Case 40

Test Case 41

Test Case 42

Test Case 43

Test Case 44

Test Case 45

Test Case 46

Test Case 47

Test Case 48

Test Case 49

Test Case 50

Test Case 51

Test Case 52

Test Case 53

Test Case 54

Test Case 55

Test Case 56

Test Case 57

Test Case 58

Test Case 59

Test Case 60

C

Run

Save

Logout

```
1. #include<stdio.h>
int main(){
    int n,i;
    printf("Enter the number of elements:\n");
    scanf("%d",&n);
    int arr[n],*ptr=arr;
    printf("Enter %d elements:\n",n);
    for(i=0;i<n;i++){
        scanf("%d",&ptr[i]);
    }
    printf("The elements in the array are:\n");
    for(i=0;i<n;i++){
        printf("%d ",*(ptr+i));
    }
}
```

5
2
3
4
5
6

Questions

CMQ13:

Write a program in C to add numbers using call by reference.

Test Data :

Input the first number : 5
Input the second number : 6

Expected Output :

The sum of 5 and 6 is 11

Test Cases

1. X = 0, N = 4
2. X = 5, N = 0
3. X = -3, N = 9
4. X = 0, N = 0
5. X = 123, N = 123

- CMQ10
- CMQ11
- CMQ12
- CMQ13
- CMQ14
- CMQ15
- CMQ16
- CMQ17
- CMQ18

C

Run

Save

Logout

```

1. #include<stdio.h>
2. long addtwonumbers(long*,long*);
3. int main()
4. {
5.     long fno,sno,sum;
6.     printf("Enter 1st num:\n");
7.     scanf("%ld",&fno);
8.     printf("Enter 2nd num:\n");
9.     scanf("%ld",&sno);
10.    sum=addtwonumbers(&fno,&sno);
11.    printf("Sum of %ld and %ld is:%ld\n",fno,sno,sum);
12.    return 0;
13. }
14. long addtwonumbers(long*n1,long*n2)
15. {
16.     long sum;
17.     sum=*n1+*n2;
18.     return sum;
19. }
    
```

5
6

Enter 1st num:16
Enter 2nd num:346
Sum of 16 and 346 is:362

Questions

CEQ12:

Write a program to print rectangle symbol pattern.

Get the symbol as input from user.

Test Cases

- CEQ10
- CEQ11
- CEQ12
- CEQ13
- CEQ14
- CEQ15
- CEQ16
- CEQ17
- CEQ18

C

Run

Save

Logout

```

1. #include<stdio.h>
2. int main()
3. {
4.     int matrix[100][100],rows,cols;
5.     printf("Enter the number of rows:");
6.     scanf("%d",&rows);
7.     printf("Enter the number of columns:");
8.     scanf("%d",&cols);
9.     printf("Enter the elements in the matrix:");
10.    for(int i=0;i<rows;i++){
11.        for(int j=0;j<cols;j++){
12.            scanf("%d",&matrix[i][j]);
13.        }
14.    }
15.    //sum of matrix numbers
    
```

Your Input Goes Here....!!!

Questions
CEQ11

Write a program for matrix addition?

Sample Input:

Mat1 = 1 2
5 3
Mat2 = 2 3
4 1

Sample Output:

Mat Sum = 3 5
9 4

Test Cases

CEQ11
CEQ12
CEQ13
CEQ14
CEQ15
CEQ16
CEQ17
CEQ18

C Run Save Logout

```
1. #include<stdio.h>
int main(){
int arr[10],size;
printf("Enter the size of the array:\n");
scanf("%d",&size);
printf("Enter the elements of the array:\n");
for(int i=0;i<size;i++){
scanf("%d",&arr[i]);
}
int max=arr[0],min=arr[0];
for(int i=1;i<size;i++){
if(arr[i]>max){
```

3
5
4
1Questions
CMQ10

Write a Program to display the diagonal elements in a matrix array and also find the sum of them.

Sample Input:

1 2 3
4 5 6
7 8 9

Output:

Diagonal Elements are 1 5 9
Sum of diagonal elements = 15

Test Cases

CMQ10
CMQ11
CMQ12
CMQ13
CMQ14
CMQ15
CMQ16
CMQ17
CMQ18

C Run Save Logout

```
1. #include<stdio.h>
int main(){
int rows,cols,matrix[5][5];
printf("Enter the number of rows:");
scanf("%d",&rows);
printf("Enter the number of cols:");
scanf("%d",&cols);
printf("Enter the elements in the matrix:");
for(int i=0;i<rows;i++){
for(int j=0;j<cols;j++){
scanf("%d",&matrix[i][j]);
}
```

3
3
1 2 3
4 5 6
7 8 9

SIMATS

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Questions

CMQ1:
A year has 365 days but leap year consists of 366 days. This one day is added in the month of February. This month which gener
Sample Input:
Enter Date : 04/11/1947
Sample Output:
Given year is Non Leap Year

Test Cases

1. 04/11/1947
2. 11/15/1936
3. 11/05/1996
4. 04/09/1947
5. 00/00/2000

CMQ10

CMQ11

CMQ12

CMQ13

CMQ14

CMQ15

CMQ16

CMQ17

CMQ18

C

Run

Save

Logout

```
1. #include<stdio.h>
int main(){
    int date,month,year;
    printf("Enter the date:DD/MM/YYYY\n");
    scanf("%d/%d/%d",&date,&month,&year);
    if(year%4==0 && year%100!=0|| year%400==0){
        printf("The year %d is a leap year",year);
    }else{
        printf("The year %d is not a leap year",year);
    }return 0;
}
```

04/11/1947