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QN : 1

Questions
CMQ1.

A year has 365 days but leap year consists of 366 days. This one day is added in the month of

Sample Input:

Enter Date : 04/11/1947

Sample Output:

Given year is Non Leap Year

Test Cases

1. 04/11/19.47
2. 11/15/1936
3. 31/45/1996
4. 64/09/1947
5. 00/00/2000

CMQ1
CMQ10
CMQ11
CMQ12
CMQ13
CMQ14
CMQ15
CMQ216
CMQ17

```c
#include<stdio.h>
int main()
{
int year;
printf("Enter the Year : ");
scanf("%d", &year);
if(year%400==0 && year%100==0){
printf("Given year is Leap Year");
}
else if(year%4==0 && year%10!=0){
printf("Given year is Leap Year");
}
else{
printf("Given year is Non Leap Year");
}
}
```

1947

Enter the Year : Given year is Non Leap Year

QN : 2

Questions
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

CMQ1
CMQ10
CMQ11
CMQ12
CMQ13
CMQ14
CMQ15
CMQ16
CMQ17

```c
#include<stdio.h>
int main()
{
int num[3][3]={{1,2,3},{4,5,6},{7,8,9}};
int i,j,sum=0;
printf("Diagonal Elements are ");
for(i=0;i<3;i++){
for(j=0;j<3;j++){
if(i==j){
printf("%d ",num[i][j]);
sum+=num[i][j];
}
}
}
printf("\nSum of diagonal elements = %d",sum);
}
```

Your Input Goes Here...!!!

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

QN : 3

Questions
CMQ11.

Write a Program to find the Maximum and Minimum value in a given array of numbers.

Sample Input:
Enter no. of elements in an array 5
Enter the elements:
1 2 3 4 5

Output:
Maximum of an array 5
Minimum of an array 1

Test Cases

```c
#include<stdio.h>
int main()
{
int num[]={1,2,3,4,5};
int m=sizeof(num)/sizeof(num[0]);
int i;
int max=num[0];
int min=num[0];
for(i=0;i<m;i++){
if(num[i]>max){
max=num[i];
}
else if(num[i]<min){
min=num[i];
}
}
printf("Maximum of an array : %d", max);
printf("\n");
printf("Minimum of an array : %d", min);
}
```

Your Input Goes Here...!!!

Maximum of an array : 5
Minimum of an array : 1

QN : 4

Questions
CMQ12.

Write a Program to find the sum and average of numbers in a matrix.

Sample input:
1 2 3
4 5 6
7 8 9

Output:
Sum = 45
Average = 5

Test Cases

```c
#include<stdio.h>
int main()
{
int num[3][3]={{1,2,3},{4,5,6},{7,8,9}};
int i,j,sum=0;
for(i=0;i<3;i++){
for(j=0;j<3;j++){
sum+=num[i][j];
}
}
printf("\nSum = %d\n",sum);
printf("Average = %d",sum/9);
}
```

Your Input Goes Here...!!!

Sum = 45
Average = 5

QN : 5

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 = 3
4. X = 0 , N = 0
5. X = 123, N = 123

CMQ1
CMQ10
CMQ11
CMQ12
CMQ13
CMQ214
CMQ15
CMQ16

```c
#include<stdio.h>
int main()
{
int a,b;
printf("Input the first number : ");
scanf("%d", &a);
printf("Input the second number : ");
scanf("%d", &b);
printf("\n");
printf("The sum of %d and %d is %d",a,b,a+b);
}
```

5
6

Input the first number : Input the second number :
The sum of 5 and 6 is 11

QN : 6

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 :5
Input 5 number of elements in the array :
element - 0 : 5
element - 1 : 7
element - 2 : 2
element - 3 : 9
element - 4 : 8

Expected Output :
The elements you entered are :

Test Cases

1. N = 16
2. N = -8
3. N = 0
4. N = -10.01
5. N = 11.22

CMQ1
CMQ10
CMQ11
CMQ12
CMQ13
CMQ14
CMQ15
CMQ16
CMQ17
CMQ18

```
1.  #include<stdio.h>
    int main()
    {
    int n;
    printf("Number of elements you have to store : ");
    scanf("%d", &n);
    int num[n];
    int i;
    for(i=0;i<n;i++){
    printf("Element - %d : ",i);
    scanf("%d",&num[i]);
    }
    int m=sizeof(num)/sizeof(num[0]);
    int *ptr=num;
    printf("\nThe elements you entered are : \n");
    for(i=0;i<m;i++){
    printf("Element - %d : %d\n",i,*(ptr+i));
    }
    }
```

```
5
5
7
2
9
8
```

 Number of elements you have to store :
Element - 0 : Element - 1 : Element - 2 :
Element - 3 : Element - 4 :
The elements you entered are :
Element - 0 : 5
Element - 1 : 7
Element - 2 : 2
Element -

QN : 7

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

CMQ1
CMQ10
CMQ11
CMQ12
CMQ13
CMQ14
CMQ15
CMQ16
CMQ17

```
1.  #include<stdio.h>
    int main()
    {
    int num[3],i;
    for(i=0;i<3;i++){
    printf("Input the value of %d element : ",i);
    scanf("%d", &num[i]);
    printf("\n");
    }
    printf("The value before swapping are : \n");
    for(i=0;i<3;i++){
    printf("element %d = %d\n",i,num[i]);
    }
    int a=num[0],b=num[1],c=num[2];
    num[0]=c;
    num[1]=a;
    num[2]=b;
    printf("\nThe value after swapping are :\n");
    for(i=0;i<3;i++){
    printf("element %d = %d\n",i, num[i]);
    }
    }
```

```
5
6
7
```

 Input the value of 0 element :
Input the value of 1 element :
Input the value of 2 element :
The value before swapping are :
element 0 = 5
element 1 = 6
element 2 = 7

The value after swapping are :
element 0 = 7
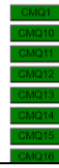element 1 = 5
element 2 = 6

QN : 8

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 = %

CMQ1
CMQ10
CMQ11
CMQ12
CMQ13
CMQ14
CMQ15
CMQ16

```c
#include<stdio.h>
int main()
{
int num;
printf("Input a number : ");
scanf("%d", &num);
int i,sum=1;
for(i=1;i<=num;i++){
sum*=i;
}
printf("\nThe Factorial of %d is : %d", num, sum);
}
```

5

Input a number :
The Factorial of 5 is : 120
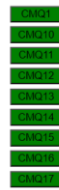
QN : 9

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

Expected Output :

Test Cases

1. N = 0,1,3,8,7,-5
1. N = 5,5,5,5,5,5,4
2. N = -2,2,-2,4,-4
3. N = -5,55,30,0.5
4. N = 0.2,2,4,5,8

CMQ1
CMQ10
CMQ11
CMQ12
CMQ13
CMQ14
CMQ15
CMQ16
CMQ17

```c
#include<stdio.h>
int main()
{
int n;
printf("Input number of elements : ");
scanf("%d", &n);
int num[n];
int i;
for(i=0;i<n;i++){
printf("Element - %d : ",i);
scanf("%d",&num[i]);
}
int sum=0;
int *ptr=num;
for(i=0;i<n;i++){
sum+=(*(ptr+i));
}
printf("\nThe sum of array is : %d", sum);
}
```

5
2
3
4
5
6

Input number of elements : Element - 0 :
Element - 1 : Element - 2 : Element - 3 :
Element - 4 :
The sum of array is : 20

QN : 10

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

```c
#include<stdio.h>

int func(int);

int func(int a){
if(a%2!=0 || a%3!=0 || a%4!=0 || a%5!=0){
return a;
}
else{
return 0;
}
}

int main()
{
int num;
printf("Input a positive number : ");
scanf("%d", &num);
int result=func(num);
if(result==0){
printf("The number %d is not prime number",num);
}
else{
printf("The number %d is a prime number",num);
}
}
```

5

Input a positive number : The number 6 is a prime number