

DAY-4 PROGRAMES

-SAKHILANANDAN

-192224060

SIMATS | Saveetha School of Engineering

SINGAMSETTY AKHILANANDAN
192224060

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
CMQ16
CMQ17
CMQ18

C Run Save Logout

```
1. #include<stdio.h>
int main()
{
    int day,month,year;
    printf("enter the date dd/mm/yyyy");
    scanf("%d,%d,%d",&day,&month,&year);
    if(year%4==0 && year%100 !=0 || year%400==0){
        printf("the year %d is a leapyear",year);
    }
    else
    {
        printf("the %d is not a leapyear",year);
    }return 0;
}
```

04/11/1947

SIMATS | Saveetha School of Engineering

SINGAMSETTY AKHILANANDAN
192224060

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
CMQ18

C Run Save Logout

```
1. #include<stdio.h>
void main()
{
    static int array[10][10];
    int i,j ,m,n,a=0,sum=0;
    printf("enter the order of matrix \n");
    scanf("%d,%d",&n,&m);
    if(m == n)
    {
        printf("enter the co efficint of matrix \n");
        for( i = 0; i< m; ++i)
        {
            for( j =0; j< n; ++j)
            {
                scanf("%d", array[i][j]);
            }
        }
    }
}
```

1 2 3
4 5 6
7 8 9

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

CMQ11
CMQ10
CMQ11
CMQ12
CMQ13
CMQ14
CMQ15
CMQ16
CMQ17
CMQ18

```
1. #include<stdio.h>
int main() {
    int arr[10],size;
    printf("enter the size of the array \n");
    scanf("%d",&size);
    printf("enter the value 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]<min){
            min=arr[i];
        }
    }
    printf("enter the maxvalue is %d\n",max);
```

123
456
789

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

CMQ11
CMQ10
CMQ11
CMQ12
CMQ13
CMQ14
CMQ15
CMQ16
CMQ17
CMQ18

```
1. #include<stdio.h>
void swap(int*,int*,int*);
int main()
{
    int x,y,z;
    printf("enter the x and y values");
    scanf("%d%d",&x,&y,&z);
    printf("before swaping\n x:%d \n y:%d \n z:%d",x,y,z);
    swap(&x,&y,&z);
    printf("after swipping \n x:%d \n y:%d \n z:%d",x,y,z);
    return 0;
}
void swap(int *a,int *b,int *c)
{
    int temp;
    temp=*a;
    *a=*b;
    *b=*c;
```

Your Input Goes Here....!!!

<pre>ExecutionFolder/192224060.c: In
function 'swap':

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

CMQ1

CMQ10

CMQ11

CMQ12

CMQ13

CMQ14

CMQ15

CMQ16

CMQ17

CMQ18

CMQ19

CMQ20

CMQ21

CMQ22

CMQ23

CMQ24

CMQ25

CMQ26

CMQ27

CMQ28

CMQ29

CMQ30

CMQ31

CMQ32

CMQ33

CMQ34

CMQ35

CMQ36

CMQ37

CMQ38

CMQ39

CMQ40

CMQ41

CMQ42

CMQ43

CMQ44

CMQ45

CMQ46

CMQ47

CMQ48

CMQ49

CMQ50

CMQ51

CMQ52

CMQ53

CMQ54

CMQ55

CMQ56

CMQ57

CMQ58

CMQ59

CMQ60

C

Run

Save

Logout

```
1. #include<stdio.h>
int main(){
int matrix[100][100],rows,cols;
printf("Enter the number of rows:");
scanf("%d",&rows);
printf("Enter the number of columns:");
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]);
}
}
//sum of matrix numbers
```

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 :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 :

```
5
7
2
9
8
```

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

CMQ19

CMQ20

CMQ21

CMQ22

CMQ23

CMQ24

CMQ25

CMQ26

CMQ27

CMQ28

CMQ29

CMQ30

CMQ31

CMQ32

CMQ33

CMQ34

CMQ35

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
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 :

The sum of array is : 20

Test Cases

1. N = 0,1,3,8,7,-5
1. N = 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

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 = %

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
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. 26!
3. 143
4. 84.1
5. .963

- CMQ19
- CMQ19
- CMQ14
- CMQ15
- CMQ16
- CMQ17
- CMQ19
- CMQ19
- CMQ17
- CMQ19

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

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

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

CMQ20.

Write a program to reverse a number using function?(Get the input from user).

Sample Input:
Number: 14567Sample Output:
Reverse Number: 76541

Test Cases

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

CMQ15
CMQ16
CMQ17
CMQ18
CMQ19
CMQ20
CMQ21
CMQ22
CMQ23
CMQ24
CMQ25

C Run Save Logout

```
1. #include<stdio.h>
   int reverse(int num);
   int main(){
       int num,reversed;
       printf("Enter the number\n");
       scanf("%d",&num);
       reversed=reverse(num);
       printf("The reversed number is %d",reversed);
       return 0;
   }
   int reverse(int num){
       int reversed=0;
       while(num!=0){
           int remainder=num%10;
```

14567

Questions

CMQ6.

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

Test Cases

CMQ1
CMQ2
CMQ3
CMQ4
CMQ5
CMQ6
CMQ7
CMQ8
CMQ9
CMQ10
CMQ11
CMQ12
CMQ13
CMQ14
CMQ15
CMQ16
CMQ17
CMQ18
CMQ19
CMQ20
CMQ21
CMQ22
CMQ23
CMQ24
CMQ25

C Run Save Logout

```
1. #include <stdio.h>
2. #include <conio.h>
3. #include <string.h>
4. int main()
5. {
6.     char a[100],w[50],lw[50];
7.     int i,p;
8.     printf ("Enter a sentence\n");
9.     gets(a);
10.    for (i=0;i<strlen(a);i++)
11.    {
12.        if (a[i]!=' ')
13.        {
14.            w[p]=a[i];
15.            p++;
16.        }
17.        else
18.        {
19.            w[p]='\0';
20.            if (strlen(w)>strlen(lw));
21.            {
22.                strcpy(lw,w);
23.            }
24.            p=0;
25.        }
26.    }
27.    printf("longest word = %s",lw);
28.    return 0;
29. }
```

I am learning programming

Enter a sentence
longest word = learning