C LAB

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1. C Program to compute the simple interest si. Given p,n,r

```
#include <stdio.h>
void main()
{
    int p, n, r;
    float si;

    printf("Enter p, n, r values : ");
    scanf("%d%d%d", &p, &n, &r);

    si = (p * n * r) / 100;
    printf("Simple Interest = %f", si);
}
```

2. C Program to Check Whether a Number is even or odd

```
#include <stdio.h>
void main()
{
    int n;

    printf("Enter a number: ");
    scanf("%d", &n);

    if (n % 2 == 0)
        printf("%d is even.", n);
    else
        printf("%d is odd.", n);
}
```

3. C Program to Find the Largest Number among Three Numbers

```
#include <stdio.h>
void main()
{
    int n1, n2, n3;
    printf("Enter three numbers: ");
    scanf("%d %d %d", &n1, &n2, &n3);
    if (n1 >= n2 && n1 >= n3)
        printf("%d is the largest.", n1);
    else if (n2 >= n1 && n2 >= n3)
        printf("%d is the largest.", n2);
    else
        printf("%d is the largest.", n3);
}
```

4. C Program to Find Factorial of a Number

```
#include <stdio.h>
void main()
{
    int n, fact = 1, i;
    printf("Enter a number: ");
    scanf("%d", &n);

    for (i = 1; i <= n; i++)
        fact *= i;

    printf("Factorial = %d", fact);
}
```

5. C Program to Generate Multiplication Table

```
#include <stdio.h>

void main()
{
    int n, i, x;
    printf("Enter the table: ");
    scanf("%d", &x);
    printf("Enter the limit: ");
    scanf("%d", &n);
    for (i = 1; i <= n; ++i)
        printf("%d*%d=%d\n", i, x, i * x);
}
```

6. C Program to Reverse a Number

```
#include <stdio.h>

void main()
{
    int n, rev = 0;
    printf("Enter a number: ");
    scanf("%d", &n);
    while (n != 0)
    {
        rev = (rev * 10) + (n % 10);
        n /= 10;
    }

    printf("Reversed number = %d", rev);
}
```

7. C Program to find the sum of digit of a given number

```
#include <stdio.h>
void main()
{
    int n, s = 0, r;
    printf("Enter an integer: ");
    scanf("%d", &n);

    while (n != 0)
    {
        r = n % 10;
        s = s + r;
        n /= 10;
    }

    printf("Sum of digit = %d", s);
}
```

8. C Program to Check Whether a Number is Palindrome or Not

```
#include <stdio.h>

void main()
{
    int n, rev = 0, temp;

    printf("Enter a number: ");
    scanf("%d", &n);

    temp = n;
```

```
    while (n != 0)
    {
        rev = (rev * 10) + (n % 10);
        n /= 10;
    }

    if (temp == rev)
        printf("%d is a palindrome.", temp);
    else
        printf("%d is not a palindrome.", temp);
}
```

9. C program to print fibonacci series

```
#include <stdio.h>

void main()
{
    int n, a = 0, b = 1, next;

    printf("Enter the number of terms: ");
    scanf("%d", &n);

    for (int i = 1; i <= n; i++)
    {
        printf("%d\n", a);
        next = a + b;
        a = b;
        b = next;
    }
}
```

10. C Program to sort the given array

```
#include <stdio.h>

void main()
{
    int a[10], i, j, t, n;
    printf("Enter number of elements:");
    scanf("%d", &n);

    for (int i = 0; i < n; i++)
    {
        printf("Enter element for a[%d]: ", i);
        scanf("%d", &a[i]);
    }

    for (i = 0; i < n; i++)
    {
        for (j = i + 1; j < n; j++)
        {
            if (a[i] > a[j])
            {
                t = a[i];
                a[i] = a[j];
                a[j] = t;
            }
        }
    }
    printf("Sorted order: \n");
    for (i = 0; i < n; i++)
    {
        printf("%d ", a[i]);
    }
}
```

11. C Program to add two matrix

```
#include <stdio.h>

void main()
{
    int a[3][3], b[3][3], c[3][3], i, j;

    printf("\nEnter elements of 1st matrix:\n");
    for (i = 0; i < 3; ++i)
        for (j = 0; j < 3; ++j)
            scanf("%d", &a[i][j]);

    printf("Enter elements of 2nd matrix:\n");
    for (i = 0; i < 3; ++i)
        for (j = 0; j < 3; ++j)
            scanf("%d", &b[i][j]);

    for (i = 0; i < 3; ++i)
        for (j = 0; j < 3; ++j)
            c[i][j] = a[i][j] + b[i][j];

    printf("\nSum of two matrices: \n");
    for (i = 0; i < 3; ++i)
    {
        for (j = 0; j < 3; ++j)
            printf("%d   ", c[i][j]);
        printf("\n\n");
    }
}
```

12. C Program using string functions

```
#include <stdio.h>
#include <string.h>

void main()
{
    char s1[20], s2[20], s3[20], l;

    printf("Enter string 1:");
    scanf("%s", s1);
    printf("Enter string 2:");
    scanf("%s", s2);

    l = strlen(s1);
    printf("Length of string 1 is %d\n", l);

    strcpy(s3, s1);
    printf("Copied string is %s\n", s3);

    strcat(s1, s2);
    printf("Concatenated string is %s\n", s1);

    printf("Reversed string is %s", strrev(s1));
}
```

13. C Program using structure

```
#include <stdio.h>

struct student
{
    char name[50];
    int roll;
    float marks;
} s;

void main()
{
    printf("Enter name: ");
    scanf("%s", s.name);

    printf("Enter roll number: ");
    scanf("%d", &s.roll);

    printf("Enter marks: ");
    scanf("%f", &s.marks);

    printf("Displaying Information:\n");
    printf("Name:%s\n", s.name);
    printf("Roll number: %d\n", s.roll);
    printf("Marks: %.1f\n", s.marks);
}
```

14. C Program to swap two numbers using pointers

```
#include <stdio.h>

void swap(int *, int *);

void main()
{
  int x, y;

  printf("Enter the value of x and y:\n");
  scanf("%d%d", &x, &y);

  printf("Before Swapping\nx = %d\ny = %d\n", x, y);

  swap(&x, &y);

  printf("After Swapping\nx = %d\ny = %d\n", x, y);
}

void swap(int *a, int *b)
{

  int temp;

  temp = *b;
  *b = *a;
  *a = temp;
}
```

15. C Program to read a text from file

```
#include <stdio.h>
#include <ctype.h>

void main()
{
    char a, a1;
    FILE *fp1, *fp2;

    fp1 = fopen("read.txt", "w");
    while ((a = getchar()) != EOF)
    {
        putc(a, fp1);
    }
    fclose(fp1);

    fp2 = fopen("read.txt", "r");
    while ((a1 = getc(fp2)) != EOF)
    {
        printf("%c", toupper(a1));
    }
    fclose(fp2);
}
```

Output

1	Enter p, n, r values : 1000 5 10 Simple Interest = 500.000000
2	Enter a number: 2 2 is even.
3	Enter three numbers: 5 2 4 5 is the largest.
4	Enter a number: 5 Factorial = 120
5	Enter the table: 5 Enter the limit: 10 1*5=5 2*5=10 3*5=15 4*5=20 5*5=25 6*5=30 7*5=35 8*5=40 9*5=45 10*5=50
6	Enter a number: 1995 Reversed number = 5991
7	Enter an integer: 528 Sum of digit = 15
8	Enter a number: 1991 1991 is a palindrome.
9	Enter the number of terms: 10 0 1 1

	2 3 5 8 13 21 34
10	Enter number of elements:5 Enter element for a[0]: 5 Enter element for a[1]: 2 Enter element for a[2]: 4 Enter element for a[3]: 1 Enter element for a[4]: 7 Sorted order: 1 2 4 5 7
11	Enter elements of 1st matrix: 1 2 3 4 5 6 7 8 9 Enter elements of 2nd matrix: 9 8 7 6 5 4 3 2 1

	Sum of two matrices: 10 10 10 10 10 10 10 10 10
12	Enter string 1:sam Enter string 2:kumar Length of string 1 is 3 Copied string is sam Concatenated string is samkumar Reversed string is ramukmas
13	Enter name: sam Enter roll number: 25 Enter marks: 100 Displaying Information: Name:sam Roll number: 25 Marks: 100.0
14	Enter the value of x and y: 3 4 Before Swapping x = 3 y = 4 After Swapping x = 4 y = 3
15	Hello World HELLO WORLD