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Conditional Statement

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1. Write a C program to find maximum between two numbers.

Code :

```c
#include <stdio.h>
int main()
{
    int num1, num2;
    scanf("%d %d",&num1,&num2);

    if (num1 > num2)
    {
        printf("maximum : \n", num1);
    }
    else
    {
        printf("maximum : %d\n", num2);
    }

    return 0;
}
```

Output :

6 8

maximum : 8

2. Write a C program to check whether a number is negative, positive or zero.

Code :

```c
#include <stdio.h>
int main()
{
```

```
    int num;
    scanf("%d",&num);

    if (num > 0)
    {
        printf("Positive");
    }
    else
    {
        printf("negative");
    }

    return 0;
}
```

Output :

8

Positive

-8

negative

3. Write a C program to input any alphabet and check whether it is vowel or consonant.

Code :

```
#include <stdio.h>
int main()
{
    char ch;
    scanf("%c", &ch);

    if ((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z'))
    {
        if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u' ||
            ch == 'A' || ch == 'E' || ch == 'I' || ch == 'O' || ch == 'U')
            {
            printf("%c is a vowel.\n", ch);
```

```
        }
        else
        {
            printf("%c is a consonant.\n", ch);
        }
    }
    else
    {
        printf("Invalid.\n");
    }

    return 0;
}
```

Output :

a

a is a vowel.

b

b is a consonant.

4. Write a program that read three numbers and display minimum.

Code :

```
#include <stdio.h>
int main()
{
    int num1, num2, num3;
    scanf("%d %d %d",&num1,&num2,&num3);

    if (num1 < num2 && num1 < num3)
    {
        printf("Minimum : %d\n", num1);
    }
    else if(num2 < num2 && num2 < num3)
    {
```

```
        printf("Minimum : %d\n", num2);
    }
    else
    {
      printf("Minimum : %d\n", num3);
    }

    return 0;
}

#include <stdio.h>
int main()
{
    int num1, num2, num3;
    scanf("%d %d %d",&num1,&num2,&num3);

    if (num1 < num2 && num1 < num3)
    {
        printf("Minimum : %d\n", num1);
    }
    else if(num2 < num2 && num2 < num3)
    {
        printf("Minimum : %d\n", num2);
    }
    else
    {
      printf("Minimum : %d\n", num3);
    }

    return 0;
}
```

Output :

1 2 3

Minimum : 1

5. Write a program that read three numbers and display medium.

Code :

```c
#include <stdio.h>
int main()
{
    int num1, num2, num3;
    scanf("%d %d %d",&num1,&num2,&num3);

    if ((num1 <= num2 && num1 >= num3) || (num1 >= num2 && num1             <= num3))
        printf("Midium : %d\n", num1);
    else if ((num2 <= num1 && num2 >= num3) || (num2 >= num1 && num2 <= num3))
        printf("Midium : %d\n", num2);
    else
        printf("Midium : %d\n", num3);

    return 0;
}
```

Output :

3 5 7

Midium : 5

6. Write a program that read mark and display result in division.

Code :

```c
#include <stdio.h>
int main()
{
    int mark;

    printf("Enter the student's mark: ");
    scanf("%d", &mark);
```

```
    if (mark >= 80)
    {
        printf("Distinction\n");
    }
    else if (mark >= 60)
    {
        printf("First Division\n");
    }
    else if (mark >= 50)
    {
        printf("Second Division\n");
    }
    else if (mark >= 40)
    {
        printf("Third Division\n");
    }
}
```

Output :

Enter the student's mark: 70

First Division

Enter the student's mark: 99

Distinction

7. Write a program that read mark and display result in grade.

Code :

```
#include<stdio.h>
int main()
{
    int marks;
    printf("Enter your marks ");
    scanf("%d",&marks);
    if(marks<0 || marks>100)
    {
```

```
        printf("invalid mark");
    }
    else if(marks<50)
    {
        printf("F");
    }
    else if(marks>=50 && marks<60)
    {
        printf("D");
    }
    else if(marks>=60 && marks<70)
    {
        printf("C");
    }
    else if(marks>=70 && marks<80)
    {
        printf("B");
    }
    else if(marks>=80 && marks<90)
    {
        printf("A");
    }
    else
    {
        printf("A+");
    }
}
```

Output :

Enter your marks 90

A+

Enter your marks 120

invalid mark

8. Write a program that read any year and display leap year or not leap year.

Code :

```c
#include <stdio.h>
int main()
{
    int year;

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

    if ((year % 4 == 0 && year % 100 != 0) || year % 400 == 0)
    {
        printf("%d is a leap year.\n", year);
    }
    else
    {
        printf("%d is not a leap year.\n", year);
    }

    return 0;
}
```

Output :

Enter a year: 2020

2020 is a leap year.

9. Write a program that read three numbers (a,b,c) and determine the root of the quadratic equation: ax2+bx+c=0

Code :

```c
#include <stdio.h>
#include <math.h>
int main()
{
```

```
    float a, b, c;
    float discriminant, root1, root2;

    printf("Enter the coefficients a, b, and c: ");
    scanf("%f %f %f", &a, &b, &c);

    discriminant = b * b - 4 * a * c;

    if (discriminant > 0)
    {
        root1 = (-b + sqrt(discriminant)) / (2 * a);
        root2 = (-b - sqrt(discriminant)) / (2 * a);
        printf("Root 1 = %.2f\n", root1);
        printf("Root 2 = %.2f\n", root2);
    }
    else if (discriminant == 0)
    {
        root1 = -b / (2 * a);
        printf("Root = %.2f\n", root1);
    }
    else
    {
        printf("No real roots exist.\n");
    }

    return 0;
}
```

Output :

Enter the coefficients a, b, and c: 1 7 3

Root 1 = -0.46

Root 2 = -6.54

10. Write a program that read three numbers and display maximum.

Code : same as 4

Output :

11. Write a program that read mark and display pass or fail.

Code :

```c
#include <stdio.h>
int main()
{
    float mark;
    const float passNumber = 40.0;

    scanf("%f", &mark);

    if (mark >= passNumber)
    {
        printf("Pass\n");
    }
    else
    {
        printf("Fail\n");
    }

    return 0;
}
```

Output :

50

Pass

12. Write a C program to read weekday number and print weekday name using switch-case.

Code :

```c
#include <stdio.h>
int main()
{
```

```c
    int weekday;

    printf("Enter the weekday : ");
    scanf("%d",&weekday);

        switch (weekday)
        {
            case 1:
                printf("Sunday\n");
                break;
            case 2:
                printf("Monday\n");
                break;
            case 3:
                printf("Tuesday\n");
                break;
            case 4:
                printf("Wednesday\n");
                break;
            case 5:
                printf("Thursday\n");
                break;
            case 6:
                printf("Friday\n");
                break;
            case 7:
                printf("Saturday\n");
                break;
            default:
                printf("Invalid weekday\n");
        }


    return 0;
}
```

Output :

Enter the weekday : 2

Monday

13. Write a C program to check whether a character is VOWEL or CONSONANT using switch-case.

Code :

```c
#include <stdio.h>
int main()
{
    char ch;

    printf("Enter a character: ");
    scanf("%c", &ch);

    switch (ch)
    {
        case 'a':
        case 'A':
        case 'e':
        case 'E':
        case 'i':
        case 'I':
        case 'o':
        case 'O':
        case 'u':
        case 'U':
            printf("vowel.\n");
            break;
        default:
            printf("consonant.\n");
    }
```

```
    return 0;
}
```

Output :

Enter a character: A

vowel.

14. Write a C program to design a calculator with basic operations using switch-case.

Code :

```
#include <stdio.h>
int main()
{
    char operator;
    float num1, num2, result;

    printf("Enter an operator (+, -, *, /): ");
    scanf(" %c", &operator);

    printf("Enter two numbers: ");
    scanf("%f %f", &num1, &num2);

    switch (operator)
    {
        case '+':
            result = num1 + num2;
            break;
        case '-':
            result = num1 - num2;
            break;
        case '*':
            result = num1 * num2;
            break;
        case '/':
            result = num1 / num2;
```

```
            break;
        default:
            printf("Invalid operator!\n");
            return 1;
    }

    printf("Result: %.2f\n", result);

    return 0;
}
```

Output :

Enter an operator (+, -, *, /): +

Enter two numbers: 4 5

Result: 9.00

15. Write a C program to check whether number is EVEN or ODD using switch-case.

Code :

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

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

    switch (number % 2)
    {
        case 0:
            printf("even number.\n");
            break;
        default:
            printf("odd number.\n");
    }
```

```
    return 0;
}
```

Output :

Enter a number: 4

even number.

16. Write a C program to find number of days in a month using switch-case.

Code :

```
#include <stdio.h>
int main()
{
    int month, days;

    printf("Enter the month (1 to 12): ");
    scanf("%d", &month);

    switch (month)
    {
        case 1:
        case 3:
        case 5:
        case 7:
        case 8:
        case 10:
        case 12:
            days = 31;
            break;
        case 4:
        case 6:
        case 9:
        case 11:
            days = 30;
```

```
            break;
        case 2:
            days = 28;
            break;
        default:
            printf("Invalid month!\n");
            return 0;

    }

    printf("Number of days in month %d is: %d\n", month, days);

    return 0;
}
```

Output :

Enter the month (1 to 12): 8

Number of days in month 8 is: 31

17. Write a program to check a number whether positive or negative.

Code : Same as Num 2

Output :

18. Write a program to check a number whether even or odd.

Code :

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

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

    if (num % 2 == 0)
    {
```

```
        printf("even num.\n");
    }
    else
    {
        printf("odd num.\n");
    }

    return 0;
}
```

Output :

Enter a num: 3

odd num.

19. Write a program to check a number is divisible by both 11 and 9 or not.

Code :

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

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

    if (num % 11 == 0 && num % 9 == 0)
    {
        printf("%d is divisible by both 11 and 9.\n",num);
    }
    else
    {
        printf("%d is not divisible by both 11 and 9.\n",num);
    }

    return 0;
```

```
}
```

Output :

Enter a num: 81

81 is not divisible by both 11 and 9.

20.Write a program to check whether a character is alphabet number or any other symbol.

Code :

```
#include <stdio.h>
int main()
{
    char ch;

    printf("Enter a character: ");
    scanf("%c",&ch);

    if ((ch >= 'A' && ch <= 'Z') || (ch >= 'a' && ch <= 'z'))
    {
        printf("alphabet.\n");
    }
    else if (ch >= '0' && ch <= '9')
    {
        printf("number.\n");
    }
    else
    {
        printf("symbol.\n");
    }

    return 0;
}
```

Output :

Enter a character: A

alphabet.

21. Write a program to check whether a triangle is equilateral, bilateral or isosceles

Code :

```c
#include <stdio.h>
int main()
{
    float a,b,c;

    printf("Enter the three sides of the triangle: ");
    scanf("%f %f %f", &a, &b, &c);

    if (a == b && b == c)
    {
        printf("The triangle is an Equilateral triangle.\n");
    }
    else if (a == b || a == c || b == c)
    {
        printf("The triangle is an Isosceles triangle.\n");
    }
    else
    {
        printf("The triangle is a Scalene triangle.\n");
    }

    return 0;
}
```

Output :

Enter the three sides of the triangle: 6 6 6

The triangle is an Equilateral triangle.

22.Write a program to check whether a triangle is valid or not. (a+b>c)

Code :

```c
#include <stdio.h>
int main()
{
    float a,b,c;

    printf("Enter the three sides of the triangle: ");
    scanf("%f %f %f", &a, &b, &c);

    if ((a + b > c) && (b + c > a) && (c + a > b))
    {
        printf("The triangle is valid.\n");
    }
    else
    {
        printf("The triangle is not valid.\n");
    }

    return 0;
}
```

Output :

Enter the three sides of the triangle: 4 6 8

The triangle is valid.