✅ Day : Conditional Statements (4-8-2025)

1. **Write a program to check if a number is positive, negative, or zero**.

INPUT- Get an integer from the user say num.

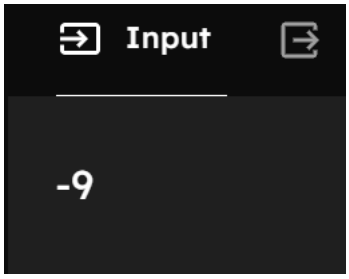
PROCESS- In order to find if it negative positive or zero using the else if statement.

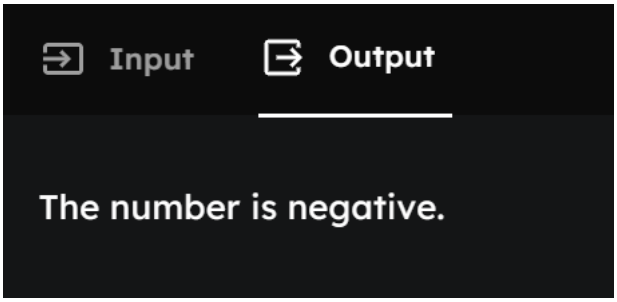
OUTPUT- Output will be printed if the number is negative , positive or zero.

CODE:

```
#include <stdio.h>
int main() {
    int number;
   scanf("%d", &number);
    if (number > 0) {
        printf("The number is positive.\n");
    } else if (number < 0) {
        printf("The number is negative.\n");
    } else {
        printf("The number is zero.\n");
    }
 return 0;
}
```

OUTPUT:





2. **Write a program to find the largest among three numbers**

INPUT- Get number input from the user.

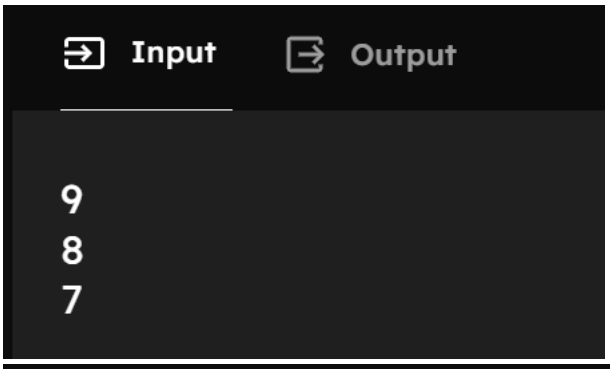
PROCESS- Use if else statement to if the largest number amongst three.

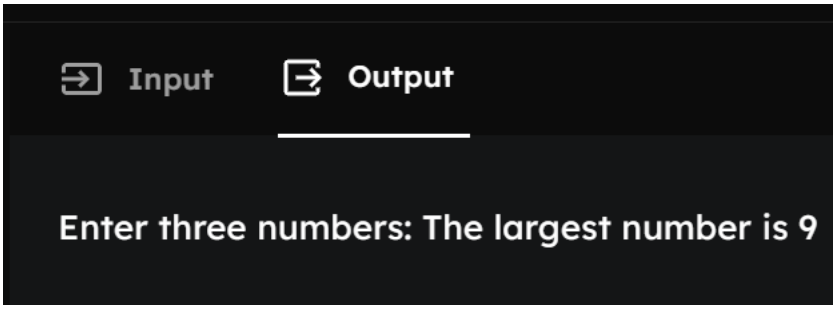
OUTPUT- the largest amongst three.

CODE:

```
#include <stdio.h>
int main() {
    int num1, num2, num3;
 printf("Enter three numbers: ");
    scanf("%d %d %d", &num1, &num2, &num3);
   if (num1 >= num2 && num1 >= num3) {
        printf("The largest number is %d\n", num1);
    } else if (num2 >= num1 && num2 >= num3) {
        printf("The largest number is %d\n", num2);
    } else {
        printf("The largest number is %d\n", num3);
    }
 return 0;
}
```

OUTPUT:





3. **Write a program to check if a year is a leap year.**

INPUT- Ask user to enter a year.

PROCESS- Use if else statement and logical operator to find if the year is leap year or not.

OUTPUT- The year entered is leap year or not is shown as the output.

CODE:

```
#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:

4. **Write a program to check whether a character is a vowel or consonant**.

INPUT- Get a character input from the user as a sentence or a word as the usr preference.

PROCESS- Using if else statement and logical arithmetic operator we can find the vowels and consonants.

OUTPUT- As the output the vowels and consonants will be checked

CODE:

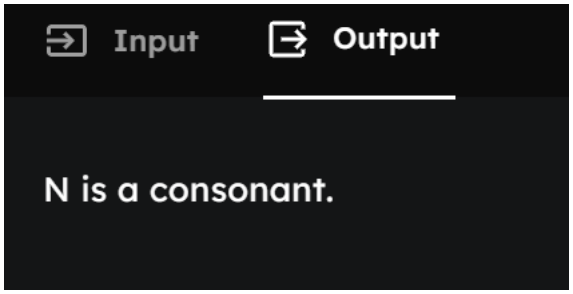
```
#include <stdio.h>

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("%c is not an alphabet.\n", ch);
    }

    return 0;
}
```

OUTPUT:



5. **Write a program to assign grades based on marks.**

INPUT- Enter the mark as the input.

PROCESS- Assign the numbers to its grade using if else statement, assignment operator and logical operator.

OUTPUT- The grade for your mark will be printed.

CODE:

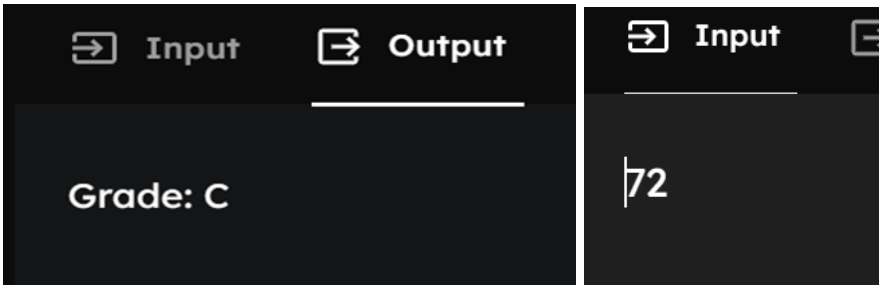
```
int main() {
    int marks;
   scanf("%d", &marks);

     if (marks < 0 || marks > 100) {
        printf("Invalid marks! Please enter a value between 0 and 100.\n");
    } else {

        if (marks >= 90) {
            printf("Grade: A\n");
        } else if (marks >= 80) {
            printf("Grade: B\n");
        } else if (marks >= 70) {
            printf("Grade: C\n");
        } else if (marks >= 60) {
            printf("Grade: D\n");
        } else {
            printf("Grade: F (Fail)\n");
        }
    }

    return 0;
}
```

OUTPUT:



6. **Write a program to check whether a number is divisible by 5 and 11.**

   INPUT- To check if the number entered by the user is divisible by 5 and 11.

PROCESS- using simple if statement u can find if the number is divisible by 5 and 11.

OUTPUT- As the output the number entered by the user is divisible by 5 and 11 will be printed.

CODE:

```
#include <stdio.h>

int main() {
    int number;
 scanf("%d", &number);
    if (number % 5 == 0 && number % 11 == 0) {
        printf("%d is divisible by both 5 and 11.\n", number);
    } else {
        printf("%d is NOT divisible by both 5 and 11.\n", number);
    }

    return 0;
}
```

OUTPUT:

7. **Write a program to find the absolute value of a number.**

INPUT- Get a number from the user as input.

PROCESS- printf("The absolute value of %d is %d\n", number, absolute); use this statement to print the absolute number given by the user.

OUTPUT- As the output the absolute number will be printed.

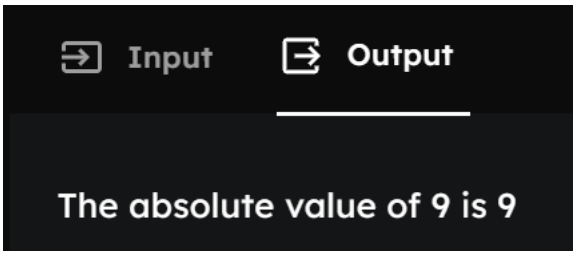
CODE:

```
int main() {
    int number, absolute;
 scanf("%d", &number);
  if (number < 0) {
        absolute = -number;
    } else {
        absolute = number;
    }

    printf("The absolute value of %d is %d\n", number, absolute);

    return 0;
}
```

OUTPUT:



8. **Write a menu-driven program to perform +, -, *, / operations.**

   INPUT- input two numbers.

PROCESS- switch program is used to perform multiplication addition and subtraction operations.

OUTPUT- The output is that a menu driven program to perform addition, subtraction and multiplication operations is printed.

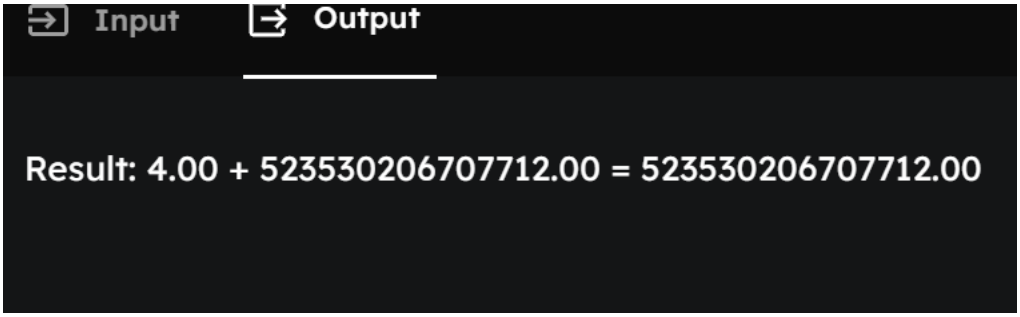
CODE:

```
#include <stdio.h>

int main() {
    int choice;
    float num1, num2, result;
 scanf("%d", &choice);
 scanf("%f %f", &num1, &num2);
 switch (choice) {
        case 1:
            result = num1 + num2;
            printf("Result: %.2f + %.2f = %.2f\n", num1, num2, result);
            break;
        case 2:
            result = num1 - num2;
            printf("Result: %.2f - %.2f = %.2f\n", num1, num2, result);
            break;
        case 3:
            result = num1 * num2;
            printf("Result: %.2f * %.2f = %.2f\n", num1, num2, result);
            break;
        case 4:
            if (num2 != 0) {
                result = num1 / num2;
                printf("Result: %.2f / %.2f = %.2f\n", num1, num2, result);
            } else {
                printf("Error: Division by zero is not allowed.\n");
            }
            break;
   default:
            printf("Invalid choice! Please select between 1 and 4.\n");
    }

    return 0;
}
```

OUTPUT:



10.Write a program to find the number of digits in a number.

INPUT- as input enter any number.

PROCESS- using else if statement we can find the number of digits in the entered number.

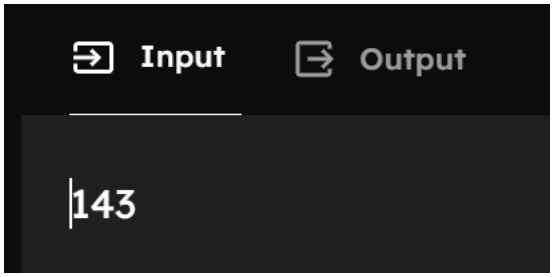
OUTPUT- As output the number of digits in the number will be printed.

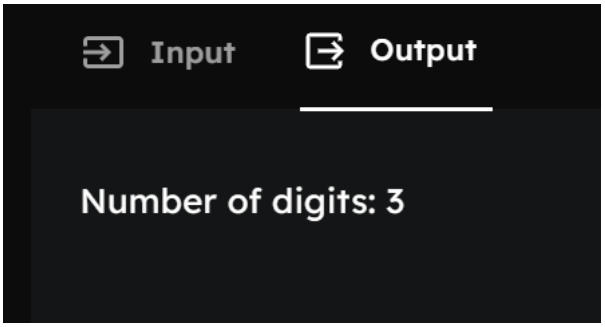
CODE:

```
#include <stdio.h>
int main() {
    int number, count = 0;
 scanf("%d", &number);
       if (number == 0) {
        count = 1;
    } else {
           if (number < 0) {
           number = -number;
        }
  while (number != 0) {
           number = number / 10;
           count++;
       }
    }
   printf("Number of digits: %d\n", count);

    return 0;
}
```

OUTPUT:


Input
Output
143


Input
Output
Number of digits: 3