Day : Conditional Statements (4-8-2025)

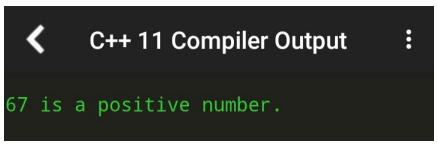
1. Write a program to check if a number is positive, negative, or zero.

Input: Get a value as input say n
Process: if(n>0) the number is positive else if it is negative and else it is zero
Output: Print whether the number is positive negative or zero.

Code:

```
#include <stdio.h>

int main() {
    int n=67;


    if (n>0)
    {
        printf("%d is a positive number.\n", n);
    }
    else if (n<0)
    {
        printf("%d is a negative number.\n", n);
    }
    else
    {
         printf("The number is zero.\n");
    }

    return 0;
}
```

Output:



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

Input: Get three values as input say num1,num2 and num3
Process: Check the largest number using relational operator (>)
Output: Print the output

Code:

```
#include <stdio.h>

int main() {
   int num1=10, num2=20, num3=30;
   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:

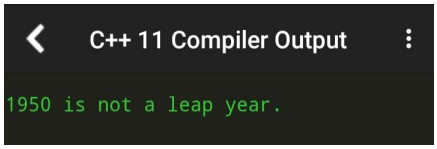
3. Write a program to check if a year is a leap year.

Input: Get a year as input say y
Process : If the year is divided by 4 and 400 and not divided by 100 then it is a leap year
Output: Print whether the year is leap or not.

Code:

```
#include <stdio.h>

int main() {
   int y=1950;


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

   return 0;
}
```

Output:



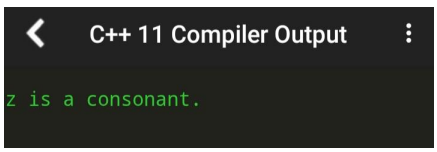
4. Write a program to check whether a character is a vowel or consonant.

Input: Get a character as input say c
Process: If the character is a,e,i,o,u then it is a vowel
Example : z
Output: Print the character consonant

Code:

```
#include <stdio.h>

int main() {
    char ch;
    scanf("%c", &ch);


    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 if ((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z')) {
        printf("%c is a consonant.\n", ch);
    }
    else
     {
        printf("%c is not an alphabet.\n", ch);
    }

    return 0;
}
```

Output:



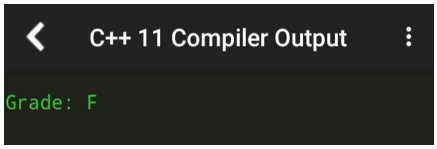
5. Write a program to assign grades based on marks.

Input: Get marks from the user
Process: Assign the grades based on mark
Output: Print the grade.

Code:

```
#include <stdio.h>

int main() {
    int marks=35;
    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\n");
    }

    return 0;
}
```

Output:



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

Input: Get a number as input say n
Process: If n is divided by both 5 and 11 and leaves remainder 0
Output: Print whether the number is divisible by both 5 and 11

Code:

```
#include <stdio.h>

int main() {
   int n=52;


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

   return 0;
}
```

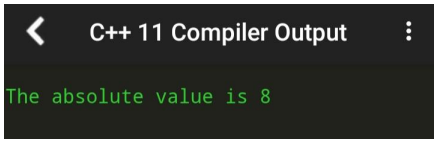
Output :

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

Input: Get a number as input say num
Process: number=-number is it's absolute value
Output: Print the absolute value

```
#include <stdio.h>

int main() {
    int number=-8;

   if (number < 0)
    {
        number = -number;
    }


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

    return 0;
}
```

Output:



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

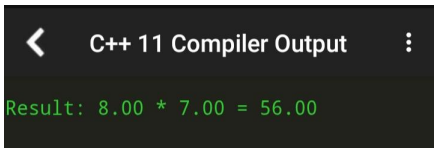
Input: Get two numbers from the user say num1 and num2
Process: Using switch create a calculator setup
Example case 3 (Multiplication)
Num1=8
Num2=7
Output: Assign results according to the user's choice of operator (8×7=56)

Code:

```
#include <stdio.h>

int main() {
    float num1,num2,result;
    int choice;


        scanf("%d", &choice);

        if (choice >= 1 && choice <= 4) {

            scanf("%f", &num1);

            scanf("%f", &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);
            }


        default:
            printf("Invalid choice. Please enter a number between 1 and 5.\n");
    }


   return 0;
}
```

Output :



9. Write a program to find roots of a quadratic equation.
10. Write a program to find the number of digits in a number.

Input: Get a number as input say num
Process: Divide (%) the number by 10 to get the remainder and then divide it by 10 to get the quotient
Output: Display the number of digits

Code:

```
#include <stdio.h>

int main()
  {
   int count = 0,num = 234,r;
   while(num>0)
   {
     r=num%10;
     count++;
     num=num/10;
   }

   printf("Number of digits: %d\n", count);

   return 0;
}
```

Output: