

## ASSIGNMENT – 2:

### *Conditional Statements (4-8-2025)*

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

*C Program:*

```
#include <stdio.h>
void main() {
    int num;
    printf("Enter a number: ");
    scanf("%d", &num);
    if (num > 0)
        printf("Positive\n");
    else if (num < 0)
        printf("Negative\n");
    else
        printf("Zero\n");
}
```

*Sample Output:*

Enter a number: -4  
Negative

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

*C Program:*

```
#include <stdio.h>
void main() {
    int a, b, c;
    printf("Enter three numbers: ");
    scanf("%d%d%d", &a, &b, &c);
    if (a >= b && a >= c)
        printf("Largest = %d\n", a);
    else if (b >= a && b >= c)
        printf("Largest = %d\n", b);
    else
        printf("Largest = %d\n", c);
}
```



```
}
```

*Sample Output:*

*Enter three numbers: 5 10 7*

*Largest = 10*

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

*C Program:*

```
#include <stdio.h>
void main() {
    int year;
    printf("Enter a year: ");
    scanf("%d", &year);
    if((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0))
        printf("Leap year\n");
    else
        printf("Not a leap year\n");
}
```

*Sample Output:*

*Enter a year: 2024*

*Leap year*

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

*C Program:*

```
#include <stdio.h>
void main() {
    char ch;
    printf("Enter a character: ");
    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("Vowel\n");
}
```



```
else
    printf("Consonant\n");
}
```

*Sample Output:*

*Enter a character: e*  
*Vowel*

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

*C Program:*

```
#include <stdio.h>
void main() {
    int marks;
    printf("Enter marks: ");
    scanf("%d", &marks);
    if (marks >= 90)
        printf("Grade A\n");
    else if (marks >= 75)
        printf("Grade B\n");
    else if (marks >= 60)
        printf("Grade C\n");
    else if (marks >= 40)
        printf("Grade D\n");
    else
        printf("Fail\n");
}
```

*Sample Output:*

*Enter marks: 78*  
*Grade B*

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

*C Program:*



```
#include <stdio.h>
void main() {
    int num;
    printf("Enter a number: ");
    scanf("%d", &num);
    if (num % 5 == 0 && num % 11 == 0)
        printf("Divisible by both 5 and 11\n");
    else
        printf("Not divisible by both 5 and 11\n");
}
```

*Sample Output (Screenshot style):*

```
Enter a number: 55
Divisible by both 5 and 11
```

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

*C Program:*

```
#include <stdio.h>
void main() {
    int num;
    printf("Enter a number: ");
    scanf("%d", &num);
    if (num < 0)
        num = -num;
    printf("Absolute value = %d\n", num);
}
```

*Sample Output (Screenshot style):*

```
Enter a number: -25
Absolute value = 25
```

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

*C Program:*



```

#include <stdio.h>
void main() {
    int a, b, choice;
    printf("Enter two numbers: ");
    scanf("%d%d", &a, &b);
    printf("Enter 1 for +, 2 for -, 3 for *, 4 for /: ");
    scanf("%d", &choice);
    if(choice == 1)
        printf("Sum = %d\n", a + b);
    else if(choice == 2)
        printf("Difference = %d\n", a - b);
    else if(choice == 3)
        printf("Product = %d\n", a * b);
    else if(choice == 4 && b != 0)
        printf("Quotient = %d\n", a / b);
    else
        printf("Invalid choice or division by zero\n");
}

```

*Sample Output (Screenshot style):*

```

Enter two numbers: 12 4
Enter 1 for +, 2 for -, 3 for *, 4 for /: 3
Product = 48

```

9. 9. Write a program to find roots of a quadratic equation.

*C Program:*

```

#include <stdio.h>
#include <math.h>
void main() {
    float a, b, c, d, root1, root2;
    printf("Enter coefficients a, b and c: ");
    scanf("%f%f%f", &a, &b, &c);
    d = b*b - 4*a*c;
    if(d > 0) {
        root1 = (-b + sqrt(d)) / (2*a);
        root2 = (-b - sqrt(d)) / (2*a);
    }
}

```



```

    printf("Roots are real and distinct: %.2f and %.2f\n", root1, root2);
} else if (d == 0) {
    root1 = root2 = -b / (2*a);
    printf("Roots are real and equal: %.2f\n", root1);
} else {
    printf("Roots are imaginary\n");
}
}

```

*Sample Output (Screenshot style):*

```

Enter coefficients a, b and c: 1 5 6
Roots are real and distinct: -2.00 and -3.00

```

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

*C Program:*

```

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

```

*Sample Output (Screenshot style):*

```

Enter a number: 7834
Number of digits = 4

```

