DAY 4-8-25

CONDITIONAL STATEMENTS

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

IPO:

**Input:** A number n

**Process:** Check if n > 0, n < 0, or n == 0

**Output:** +VE,-VE,0

#include <stdio.h>

void main()

{

int n;

scanf("%d", &n);

if (n > 0)

printf("Positive");

else if (n < 0)

printf("Negative");

else

printf("Zero");

}

Output :



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

IPO:

**Input:** Three numbers a, b, c

**Process:** Compare a, b, c

**Output:** Largest number

Code:

#include <stdio.h>

void main()

{

int a, b, c;

scanf("%d%d%d", &a, &b, &c);

if (a >b && a > c)

printf("%d is largest", a);

else if (b >c)

printf("%d is largest", b);

else

printf("%d is largest", c);

}

Output:



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

**Ipo:**

**Input:** A year

**Process:** Check leap year condition

**Output:** Leap or not

Code:

#include <stdio.h>

void main()

{

int year;

printf("Enter a year: ");

scanf("%d", &year);

if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0))

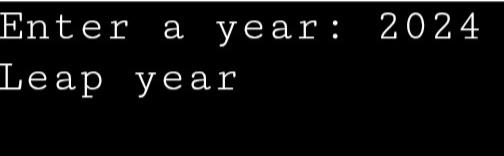
printf("Leap year");

else

printf("Not a leap year");

}

Output:



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

Ipo:

**Input:** A character

**Process:** Compare with vowels

**Output:** Vowel or consonant

Code:

#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')

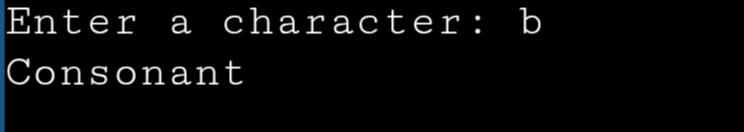
printf("Vowel");

else

printf("Consonant");

}

Output:



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

**Ipo:**

**Input:** Marks (0–100)

**Process:** Use ranges to assign grades

**Output:** Grade (A/B/C/Fail)

Code:

#include <stdio.h>

void main()

{

int marks;

printf("Enter marks: ");

scanf("%d", &marks);

if (marks >= 90)

printf("Grade: A");

else if (marks >= 75)

printf("Grade: B");

else if (marks >= 50)

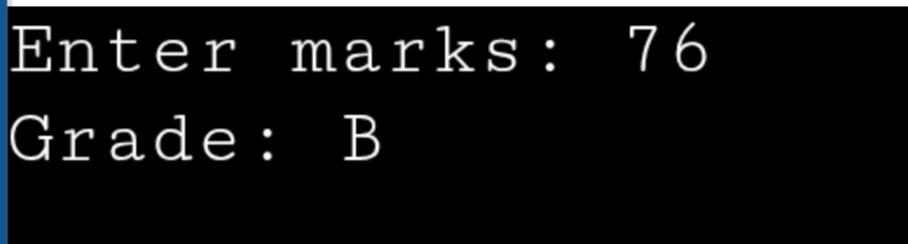
printf("Grade: C");

else

printf("Fail");

}

Output:



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

Ipo:

**Input:** Number

**Process:** Check % 5 == 0 and % 11 == 0

**Output:** Divisible or not

Code:

#include <stdio.h>

void main()

{

int num;

printf("Enter a number: ");

scanf("%d", &num);

if (num % 5 == 0 && num % 11 == 0)

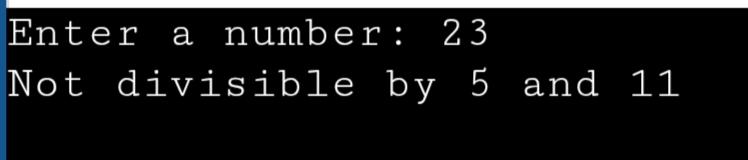
printf("Divisible by 5 and 11");

else

printf("Not divisible by 5 and 11");

}

Output:



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

Ipo:

**Input:** Number

**Process:** If negative, make it positive

**Output:** Absolute value

Code:

#include <stdio.h>

void main()

{

int n;

printf("Enter a number: ");

scanf("%d", &n);

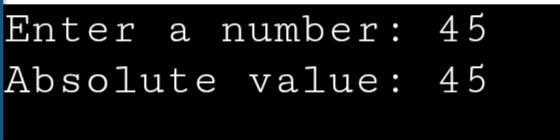
if (n < 0)

n = -n;

printf("Absolute value: %d", n);

}

Output:



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

Ipo:

**Input:** Two numbers and an operator

**Process:** Perform operation based on user input

**Output:** Result

Code:

#include <stdio.h>

void main()

{

int a, b, choice;

printf("Enter two numbers: ");

scanf("%d%d", &a, &b);

printf("1.Add\n2.Subtract\n3.Multiply\n4.Divide\n");

printf("Enter your choice: ");

scanf("%d", &choice);

switch(choice) {

case 1: printf("Sum = %d\n", a + b); break;

case 2: printf("Difference = %d\n", a - b); break;

case 3: printf("Product = %d\n", a \* b); break;

case 4:

if (b != 0)

printf("Quotient = %d\n", a / b);

else

printf("Division by zero not allowed\n");

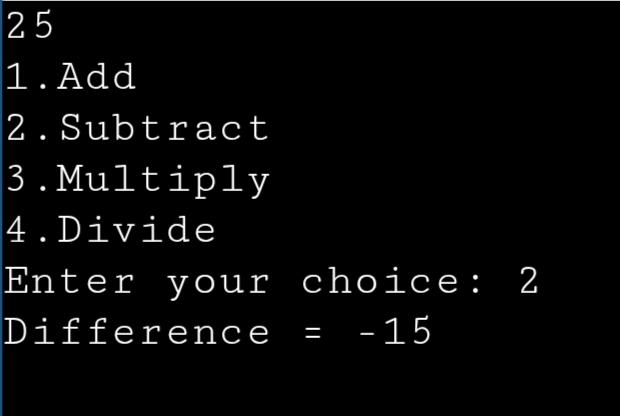
break;

default: printf("Invalid choice\n");

}

}

Output:



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

Ipo:

**Input:** Coefficients a, b, c

**Process:** Calculate discriminant and roots

**Output:** Roots (real or imaginary)

Code:

#include <stdio.h>

#include <math.h>

void main()

{

float a, b, c, d, r1, r2;

printf("Enter coefficients a, b, c: ");

scanf("%f%f%f", &a, &b, &c);

d = b \* b - 4 \* a \* c;

if (d > 0) {

r1 = (-b + sqrt(d)) / (2 \* a);

r2 = (-b - sqrt(d)) / (2 \* a);

printf("Roots are real and distinct: %.2f and %.2f\n", r1, r2);

} else if (d == 0) {

r1 = -b / (2 \* a);

printf("Roots are real and equal: %.2f\n", r1);

} else {

float real = -b / (2 \* a);

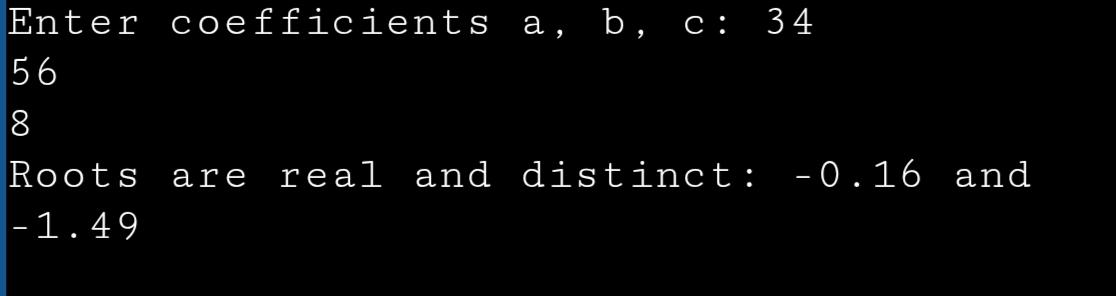
float imag = sqrt(-d) / (2 \* a);

printf("Roots are imaginary: %.2f + %.2fi and %.2f - %.2fi\n", real, imag, real, imag);

}

}

Output:



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

Ipo:

**Input:** Number

**Process:** Divide by 10 in loop

**Output:** Count of digits

Code:

#include <stdio.h>

void main()

{

int n, count = 0;

printf("Enter a number: ");

scanf("%d", &n);

if (n == 0)

count = 1;

else {

while (n != 0) {

n = n / 10;

count++;

}

}

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

}

Output:

