

Assignment 9

Switch case

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#include <stdio.h>

#include <math.h>

int main() {

    int month;

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

    switch (month) {

        case 1: case 3: case 5: case 7: case 8: case 10: case 12:
            printf("31 days\n");
            break;

        case 4: case 6: case 9: case 11:
            printf("30 days\n");
            break;

        case 2:
            printf("28 or 29 days (leap year)\n");
            break;

        default:
            printf("Invalid month number\n");
    }printf("\n");

    double num1, num2, result;

    char op;

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

    printf("Enter an operator (1.add 2.sub 3.mul 4.div): ");
```

```
scanf(" %d", &op);
switch (op) {
    case 1:
        result = num1 + num2;
        printf("Result: %.2lf\n", result);
        break;
    case 2:
        result = num1 - num2;
        printf("Result: %.2lf\n", result);
        break;
    case 3:
        result = num1 * num2;
        printf("Result: %.2lf\n", result);
        break;
    case 4:
        if (num2 != 0) {
            result = num1 / num2;
            printf("Result: %.2lf\n", result);
        } else {
            printf("Error: Division by zero\n");
        }
        break;
    default:
        printf("Invalid operator\n");
}printf("\n");
```

```
int day;
```

```
printf("Enter the day number (1-7): ");
scanf("%d", &day);
switch (day) {
    case 1:
        printf("Happy Sunday!\n");
        break;
    case 2:
        printf("Hello Monday!\n");
        break;
    case 3:
        printf("Good Tuesday!\n");
        break;
    case 4:
        printf("Wonderful Wednesday!\n");
        break;
    case 5:
        printf("Terrific Thursday!\n");
        break;
    case 6:
        printf("Fantastic Friday!\n");
        break;
    case 7:
        printf("Super Saturday!\n");
        break;
    default:
        printf("Invalid day number\n");
}printf("\n");

int a, b, c;
```

```

printf("Enter three side lengths of a triangle: ");
scanf("%d %d %d", &a, &b, &c);
if (a + b > c && a + c > b && b + c > a) {
    if (a == b && b == c) {
        printf("Equilateral triangle\n");
    } else if (a == b || b == c || a == c) {
        printf("Isosceles triangle\n");
    } else if (a * a + b * b == c * c || a * a + c * c == b * b || b * b + c
* c == a * a) {
        printf("Right-angled triangle\n");
    } else {
        printf("Scalene triangle\n");
    }
} else {
    printf("Invalid side lengths for a triangle\n");
}printf("\n");

```

```

int var;
printf("Enter a variable (1, 2, or 3): ");
scanf("%d", &var);
switch (var) {
    case 1:
        printf("Good\n");
        break;
    case 2:
        printf("Better\n");
        break;
    case 3:
        printf("Best\n");

```

```

        break;

    default:

        printf("Invalid\n");
    }printf("\n");

    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);
    }printf("\n");


    int units;

    double bill = 0;

    printf("Enter the electricity units consumed: ");

    scanf("%d", &units);

    if (units > 0) {

        if (units <= 50) {

            bill = units * 0.50;

        } else if (units <= 150) {

            bill = 50 * 0.50 + (units - 50) * 0.75;

        } else if (units <= 250) {

            bill = 50 * 0.50 + 100 * 0.75 + (units - 150) * 1.20;

        } else {

            bill = 50 * 0.50 + 100 * 0.75 + 100 * 1.20 + (units - 250) * 1.50;

        }

        bill *= 1.20;

```

```
    printf("Total electricity bill: Rs. %.2lf\n", bill);  
} else {  
    printf("Invalid number of units\n");  
}printf("\n");
```

```
int num;  
printf("Enter a number: ");  
scanf("%d", &num);  
switch (num >= 0) {  
    case 1:  
        printf("Negative of %d is %d\n", num, -num);  
        break;  
    case 0:  
        printf("Positive of %d is %d\n", num, -num);  
        break;  
}printf("\n");
```

```
int evenNum;  
printf("Enter an even number: ");  
scanf("%d", &evenNum);  
if (evenNum % 2 == 0) {  
    int nearestOdd;  
    switch (evenNum % 4) {  
        case 0:  
            nearestOdd = evenNum - 1;  
            break;  
        case 2:  
            nearestOdd = evenNum + 1;  
            break;
```

```

        default:
            nearestOdd = evenNum;
    }

    printf("The nearest odd number is: %d\n", nearestOdd);
} else {
    printf("Invalid input, not an even number\n");
}printf("\n");

double A, B, C;

printf("Enter the coefficients a, b, and c of the quadratic equation (ax^2 +
bx + c = 0):\n ");
scanf("%lf %lf %lf", &A, &B, &C);
double discriminant = B * B - 4 * A * C;
if (discriminant > 0) {
    double root1 = (-B + sqrt(discriminant)) / (2 * A);
    double root2 = (-B - sqrt(discriminant)) / (2 * A);
    printf("Roots are real and different. Root1 = %.2lf, Root2 = %.2lf\n",
root1, root2);
} else if (discriminant == 0) {
    double root = -B / (2 * A);
    printf("Roots are real and the same. Root = %.2lf\n", root);
} else {
    printf("Roots are complex.\n");
}

return 0;
}

```

Enter the month number (1-12): 8

31 days

Enter two numbers: 5

3

Enter an operator (1.add 2.sub 3.mul 4.div): 3

Result: 15.00

Enter the day number (1-7): 6

Fantastic Friday!

Enter three side lengths of a triangle: 3 4 5

Right-angled triangle

Enter a variable (1, 2, or 3): 1

Good

Enter a year: 2004

2004 is a leap year

Enter the electricity units consumed: 420

Total electricity bill: Rs. 570.00

Enter a number: 10

Negative of 10 is -10

Enter an even number: 42

The nearest odd number is: 43

Enter the coefficients a, b, and c of the quadratic equation

1 -5 6

Roots are real and different. Root1 = 3.00, Root2 = 2.00