SOMAIYA VIDYAVIHAR UNIVERSITY
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# Introduction to Switch Case

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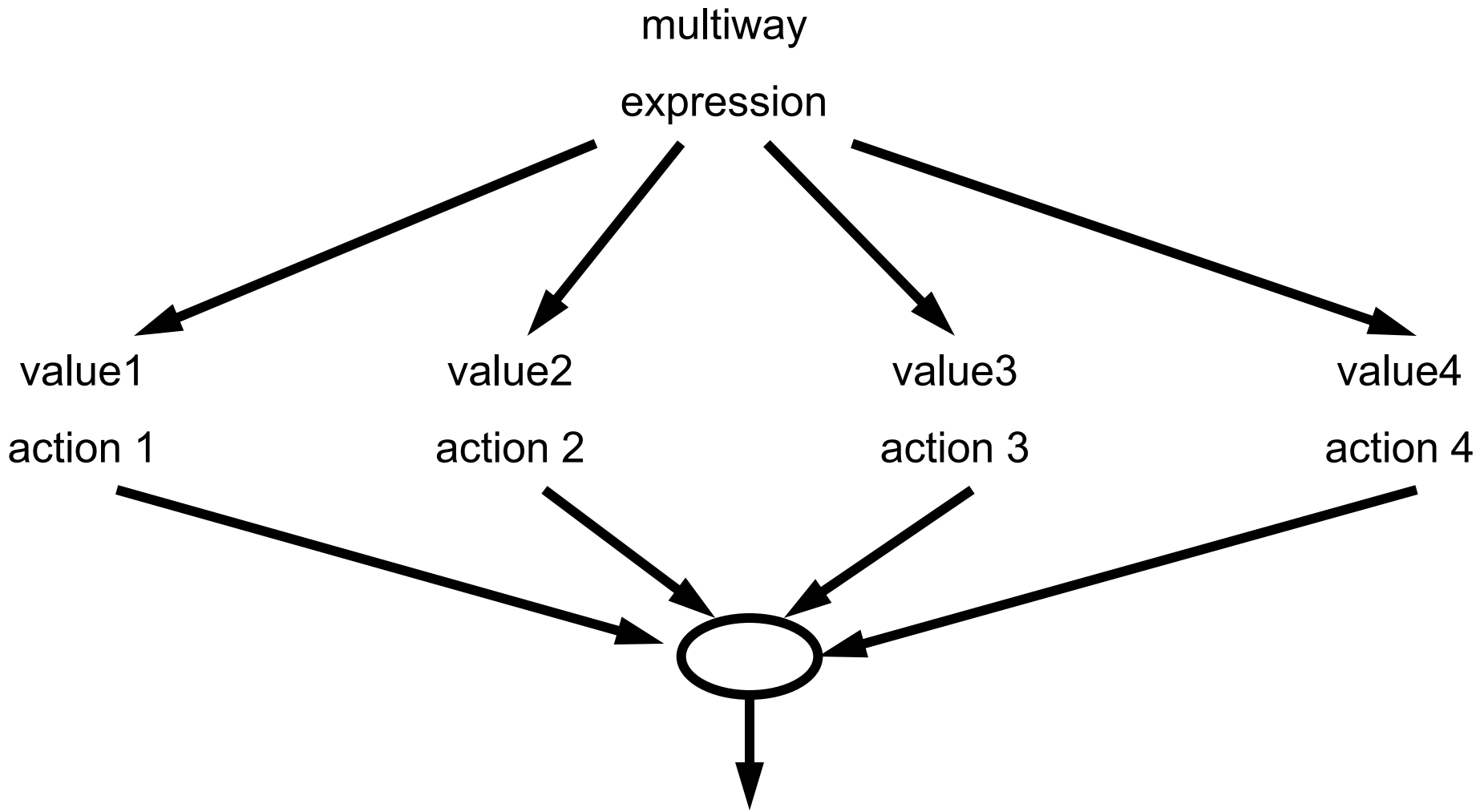
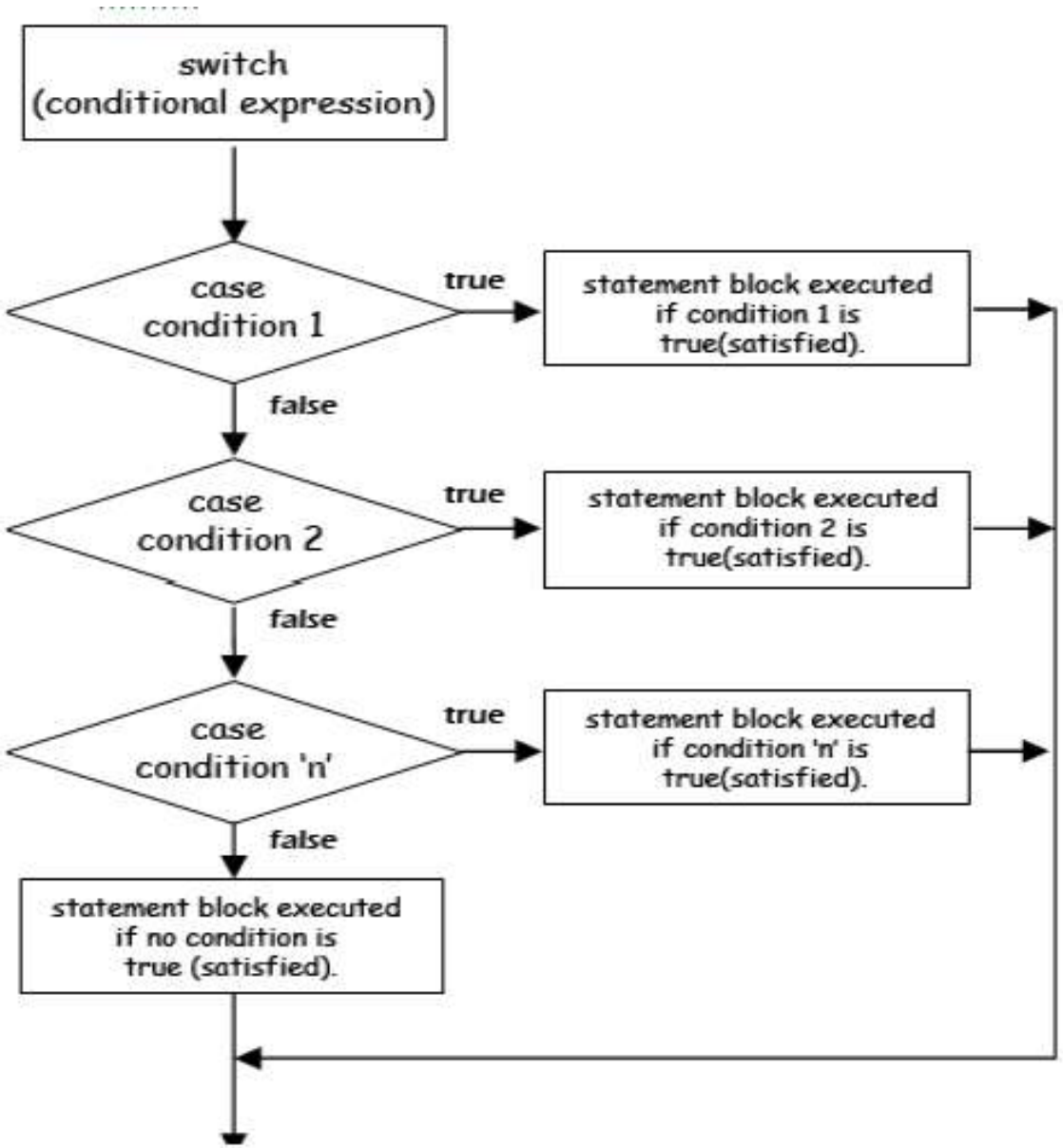
# Multiple Selection: The `switch` Statement



# Multiple Selection: The `switch` Statement

```
Syntax:
switch (<selector expression>) {
     case <label1> : <sequence of statements>;
                     break;
     case <label2> : <sequence of statements>;
                     break;
     case <labeln> : <sequence of statements>;
                     break;
     default :       <sequence of statements>;
 }
```


switch
(conditional expression)
case
condition 1
true
statement block executed
if condition 1 is
true(satisfied).
false
case
condition 2
true
statement block executed
if condition 2 is
true(satisfied).
false
case
condition 'n'
true
statement block executed
if condition 'n' is
true(satisfied).
false
statement block executed
if no condition is
true (satisfied).

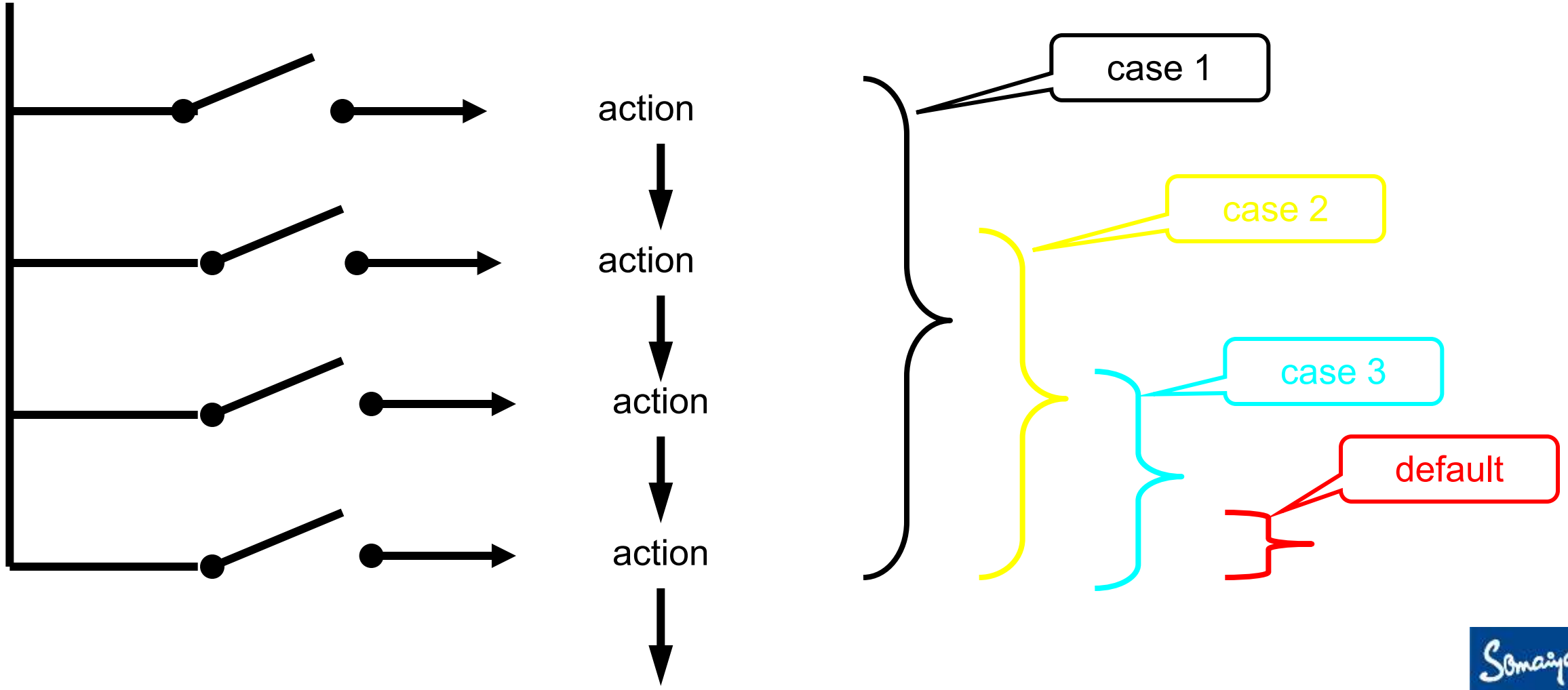
# Multiple Selection: The `switch` Statement

Meaning:

- Evaluate selector expression.
- The selector expression can only be: a bool, an integer, an enum constant, or a char.
- Match case label.
- Execute sequence of statements of matching label.
- If break encountered,

  go to end of the `switch` statement.
- Otherwise continue execution.

# Multiple Selection: The `switch` Statement



# switch Statement: Example 1

```
switch (option)
{
    case 'A':
        aCount++;
        break;
    case 'B':
        bCount++;
        break;
    case 'C':
        cCount++;
        break;
    default:
        otherCount++;
        break;
}
```

# `switch` Statement: Example 2

**`Calculator example`** ……

# `switch` Statement with Multiple Labels: Example 3

```
switch (watts) {
        case 25 :  lifespan = 2500;
                   break;
        case 40 :
        case 60 :  lifespan = 1000;
                   break;
        case 75 :  lifespan = 750;
                   break;
        default :
                   lifespan = 0;
 } // end switch
```

# Points to Remember

- The expression followed by each `case` label must be a constant expression.
- No two `case` labels may have the same value.
- Two `case` labels may be associated with the same statements.
- The `default` label is not required.
- There can be only one `default` label, and it is usually last.

# Menu driven program for simple calculator

```
#include <iostream>
using namespace std;

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

    do {
        // Display menu
        cout << "\n===== Simple Calculator =====" << endl;
        cout << "1. Addition" << endl;
        cout << "2. Subtraction" << endl;
        cout << "3. Multiplication" << endl;
        cout << "4. Division" << endl;
        cout << "5. Exit" << endl;
        cout << "Enter your choice (1-5): ";
        cin >> choice;

        if (choice >= 1 && choice <= 4) {
            cout << "Enter two numbers: ";
            cin >> num1 >> num2;
        }

        switch (choice) {
            case 1:
                result = num1 + num2;
                cout << "Result: " << result << endl;
                break;
            case 2:
                result = num1 - num2;
                cout << "Result: " << result << endl;
                break;
            case 3:
                result = num1 * num2;
                cout << "Result: " << result << endl;
                break;
            case 4:
                if (num2 != 0) {
                    result = num1 / num2;
                    cout << "Result: " << result << endl;
                } else {
                    cout << "Error! Division by zero." << endl;
                }
                break;
            case 5:
                cout << "Exiting... Goodbye!" << endl;
                break;
            default:
                cout << "Invalid choice. Please try again." << endl;
        }

    } while (choice != 5);

    return 0;
}
```

# Write a program to check character is vowel or not using Switch case if its vowel which vowel.

```
#include <iostream>
using namespace std;
int main() {
    char ch;
    cout << "Enter a character: ";
    cin >> ch;

    switch (ch) {
        case 'a':
        case 'A':
            cout << "It is vowel: A" << endl;
            break;
        case 'e':
        case 'E':
            cout << "It is vowel: E" << endl;
            break;
        case 'i':
        case 'I':
            cout << "It is vowel: I" << endl; }
            break;
        case 'o':
        case 'O':
            cout << "It is vowel: O" << endl;
            break;
        case 'u':
        case 'U':
            cout << "It is vowel: U" << endl;
            break;
        default:
            cout << "It is not a vowel." << endl;
    }
    return 0;
```

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# Practice Questions

- Write a menu-driven program for a tea stall calculator (Chai, Coffee, Lassi, Juice, Exit).
- Write a program to print the Indian festival name when the user enters a number (1–5), e.g., 1 → Diwali, 2 → Holi, 3 →Ganpati, 4 → Navratri, 5 → Pongal.
- Write a program to create a menu for an Indian restaurant (1 → Dosa, 2 → Idli, 3 → Paratha, 4 → Pesarattu, 5 → Exit).
- Write a program to check whether an entered character is an uppercase letter, lowercase letter, digit, or special symbol using switch-case.
- Write a program to calculate the area of different shapes (Circle, Square, Rectangle, Triangle) based on user choice.
- Write a program to display a **welcome message** in different Indian languages based on user choice:
  1 → Hindi → "Namaste"
  2 → Marathi → "Namaskar"
  3 → Gujarati → "Kem Cho"
  4 → Tamil → "Vanakkam"
  5 → Exit
- Write a program where the user selects a **language for ATM instructions**:
  1 → Hindi
  2 → English
  3 → Kannada
  4 → Telugu
  Display "You selected ___ language" accordingly.
- Write a menu-driven program for a **mobile phone language setting** using switch-case:
  1 → Hindi
  2 → English
  3 → Bengali
  4 → Tamil
  5 → Exit

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# Thank you