كلية العلوم
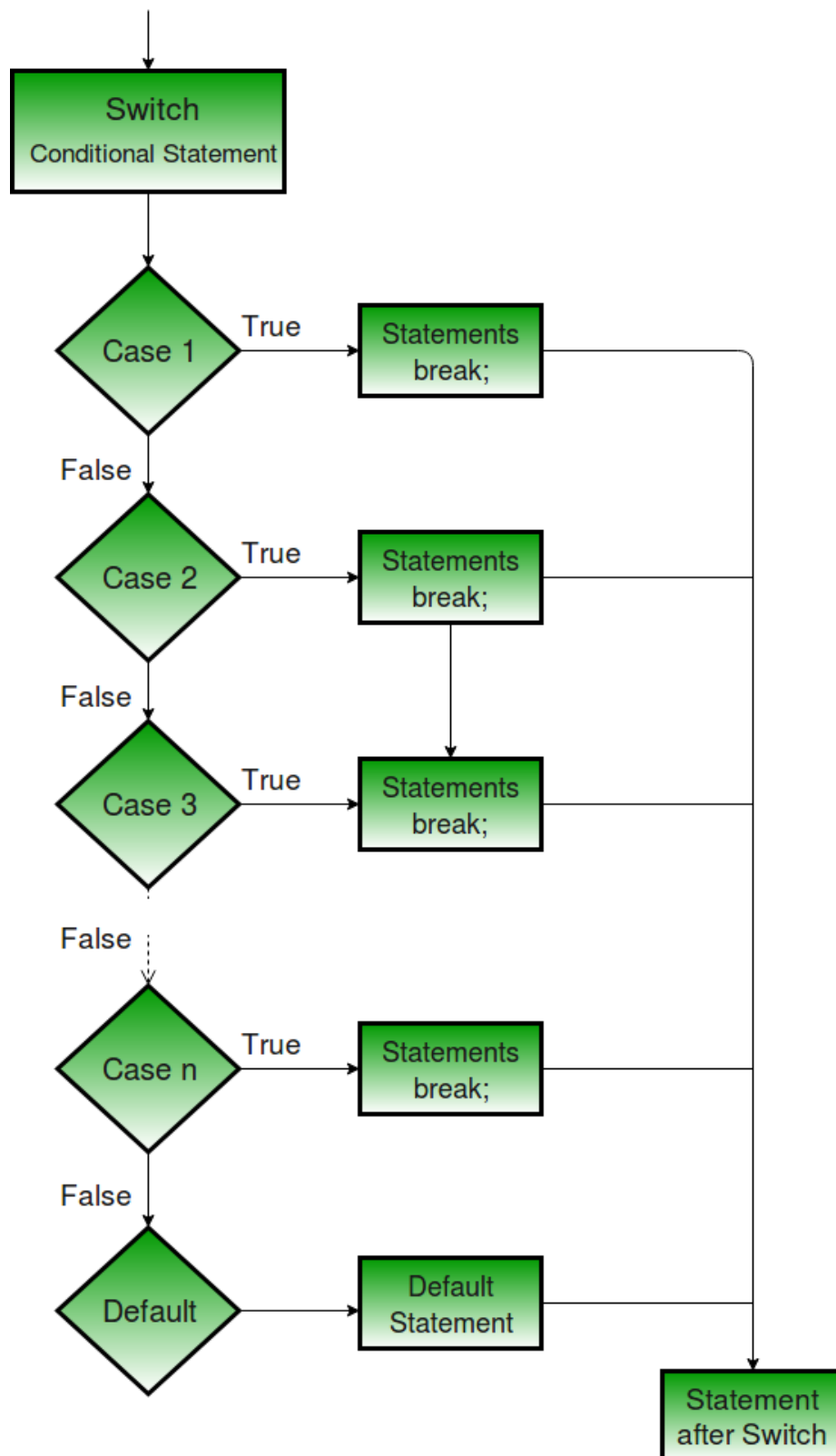**قـــــــــــــــم الانظمة الطبية الذكية**

Lecture: (11)

- **The switch-case Statement**

Subject: Computer Programming (I)
Level: First
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Java Switch Statements

Instead of writing **many** `if..else` statements, you can use the `switch` statement.

The `switch` statement selects one of many code blocks to be executed:

```
switch(expression) {
  case x:
    // code block
    break;
  case y:
    // code block
    break;
  default:
    // code block
}
```

This is how it works:

- The `switch` expression is evaluated once.
- The value of the expression is compared with the values of each `case`.
- If there is a match, the associated block of code is executed.
- The `break` and `default` keywords are optional, and will be described later in this chapter

The example below uses the weekday number to calculate the weekday name:

```java
public class SwitchExample {
    public static void main(String[] args) {
        int day = 4;

        switch (day) {
            case 1:
                System.out.println("Monday");
                break;
            case 2:
                System.out.println("Tuesday");
                break;
            case 3:
                System.out.println("Wednesday");
                break;
            case 4:
                System.out.println("Thursday");
                break;
            case 5:
                System.out.println("Friday");
                break;
            case 6:
                System.out.println("Saturday");
                break;
            case 7:
                System.out.println("Sunday");
                break;
            default:
                System.out.println("Invalid day");
                break;
        }
    }
}
```

==

```java
import java.util.Scanner;

public class ShapeTypeDetector {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the number of sides of the
shape: ");
        int sides = scanner.nextInt();

        switch (sides) {
            case 1:
                System.out.println("It's a circle.");
                break;
            case 2:
                System.out.println("It's a line segment.");
                break;
            case 3:
                System.out.println("It's a triangle.");
                break;
            case 4:
                System.out.println("It's a quadrilateral.");
                break;
            case 5:
            case 6:
            case 7:
            case 8:
                System.out.println("It's a polygon.");
                break;
            default:
                System.out.println("Unknown shape.");
                break;
        }

        scanner.close();
    }
}
```

- Java program that allows the user to select a month using a switch-case statement:

```java
import java.util.Scanner;

public class MonthSelector {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.println("Select a month (1-12):");
        int month = scanner.nextInt();

        switch (month) {
            case 1:
                System.out.println("January");
                break;
            case 2:
                System.out.println("February");
                break;
            case 3:
                System.out.println("March");
                break;
            case 4:
                System.out.println("April");
                break;
            case 5:
                System.out.println("May");
                break;
            case 6:
                System.out.println("June");
                break;
            case 7:
                System.out.println("July");
                break;
            case 8:
                System.out.println("August");
                break;
```

```java
        case 9:
            System.out.println("September");
            break;
        case 10:
            System.out.println("October");
            break;
        case 11:
            System.out.println("November");
            break;
        case 12:
            System.out.println("December");
            break;
        default:
            System.out.println("Invalid month
number. Please enter a number between 1 and 12.");
            break;
        }

        scanner.close();
    }
}
```