SWITCH CASE IN C

by
Dr. Sumit Srivastava
Dept. of Computer Science & Engineering

Unit -II

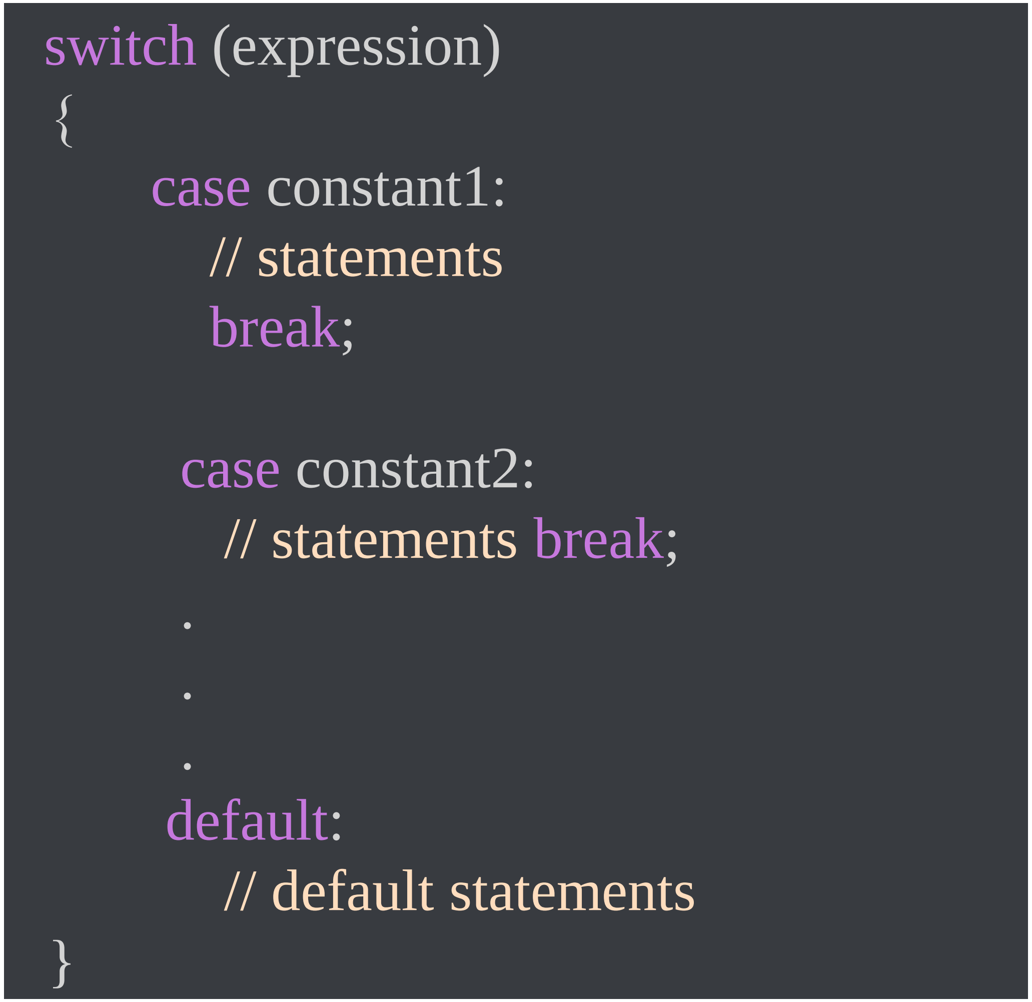
C Switch Statement

- The switch statement allows us to execute one code block among many alternatives.

- You can do the same thing with the if...else..if ladder.

- However, the syntax of the switch statement is much easier to read and write.

Syntax of switch...case



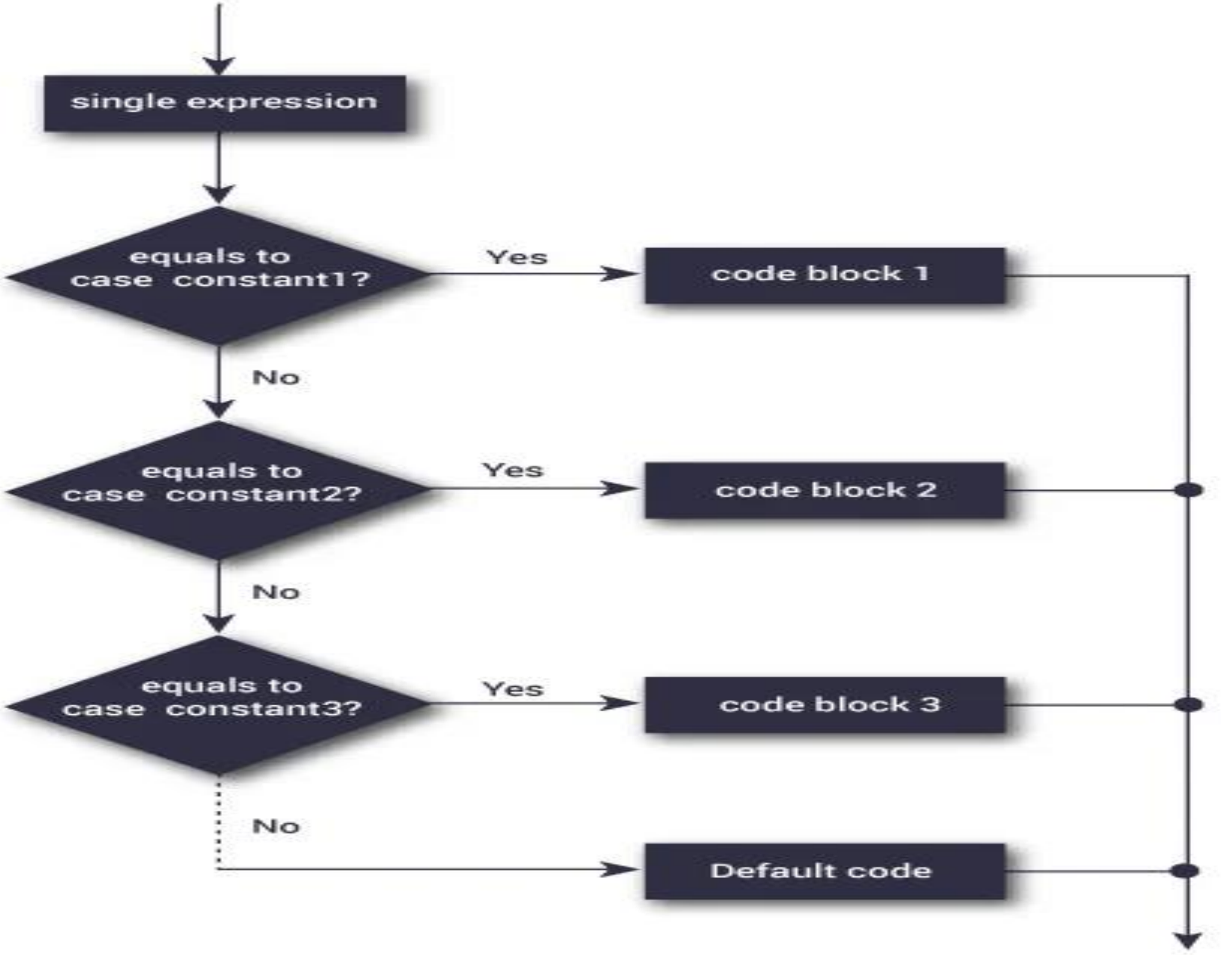
```
switch (expression)
 {
        case constant1:
            // statements
            break;

          case constant2:
             // statements break;
          .
          .
          .
         default:
             // default statements
}
```

How does the switch statement work?

- The expression is evaluated once and compared with the values of each case label.
  - If there is a match, the corresponding statements after the matching label are executed.

  (For example, if the value of the expression is equal to constant2, statements after case constant2: are executed until break is encountered.)
  - If there is no match, the default statements are executed.
- Notes:
  - If we do not use the break statement, all statements after the matching label are also executed.
  - The default clause inside the switch statement is optional.

switch Statement Flowchart



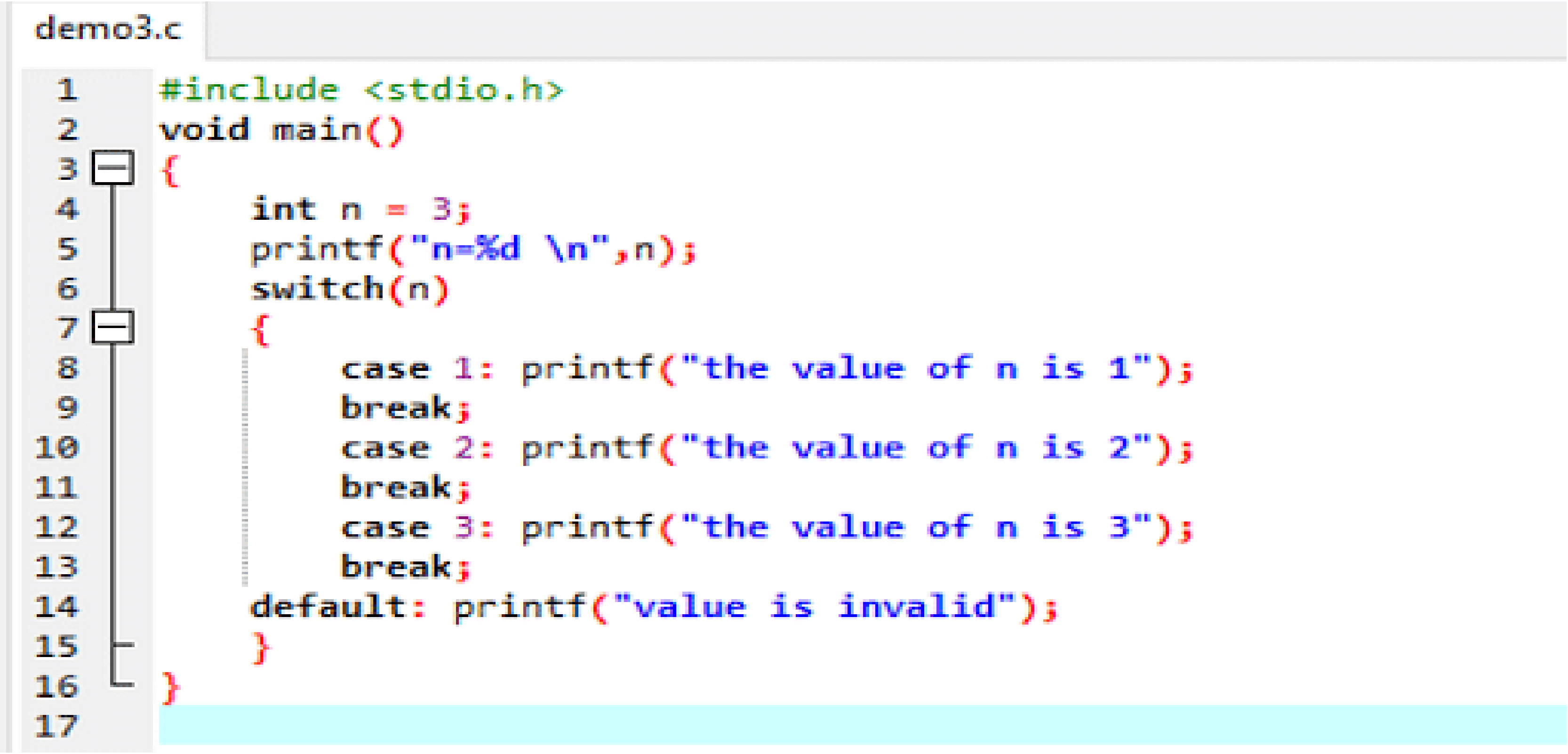
Example of switch Statement

```
/ C Program to illustrate the use of switch statement
#include <stdio.h>

int main()
{
    // variable to be used in switch statement
    int var = 2;

    // declaring switch cases
    switch (var) {
    case 1:
        printf("Case 1 is executed");
        break;
    case 2:
        printf("Case 2 is executed");
        break;
    default:
        printf("Default Case is executed");
        break;
    }

    return 0;
}
```

Output

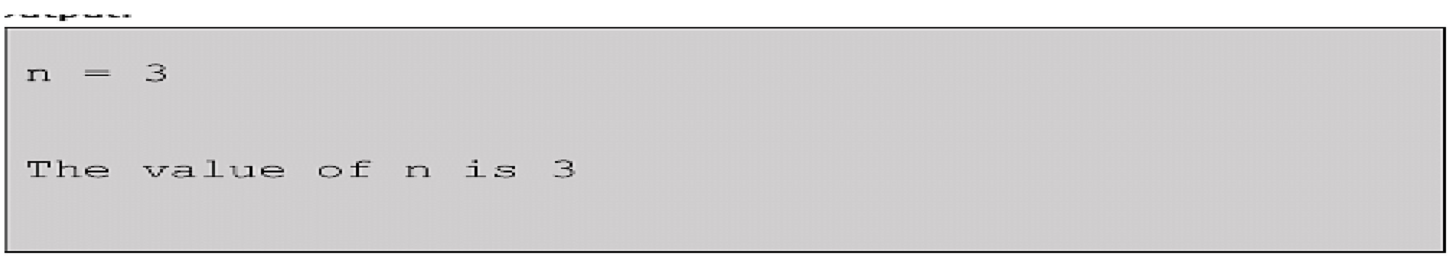
```
Case 2 is executed
```

Example:



demo3.c

```c
#include <stdio.h>
void main()
{
	int n = 3;
	printf("n=%d \n",n);
	switch(n)
	{
		case 1: printf("the value of n is 1");
		break;
		case 2: printf("the value of n is 2");
		break;
		case 3: printf("the value of n is 3");
		break;
	default: printf("value is invalid");
	}
}

```



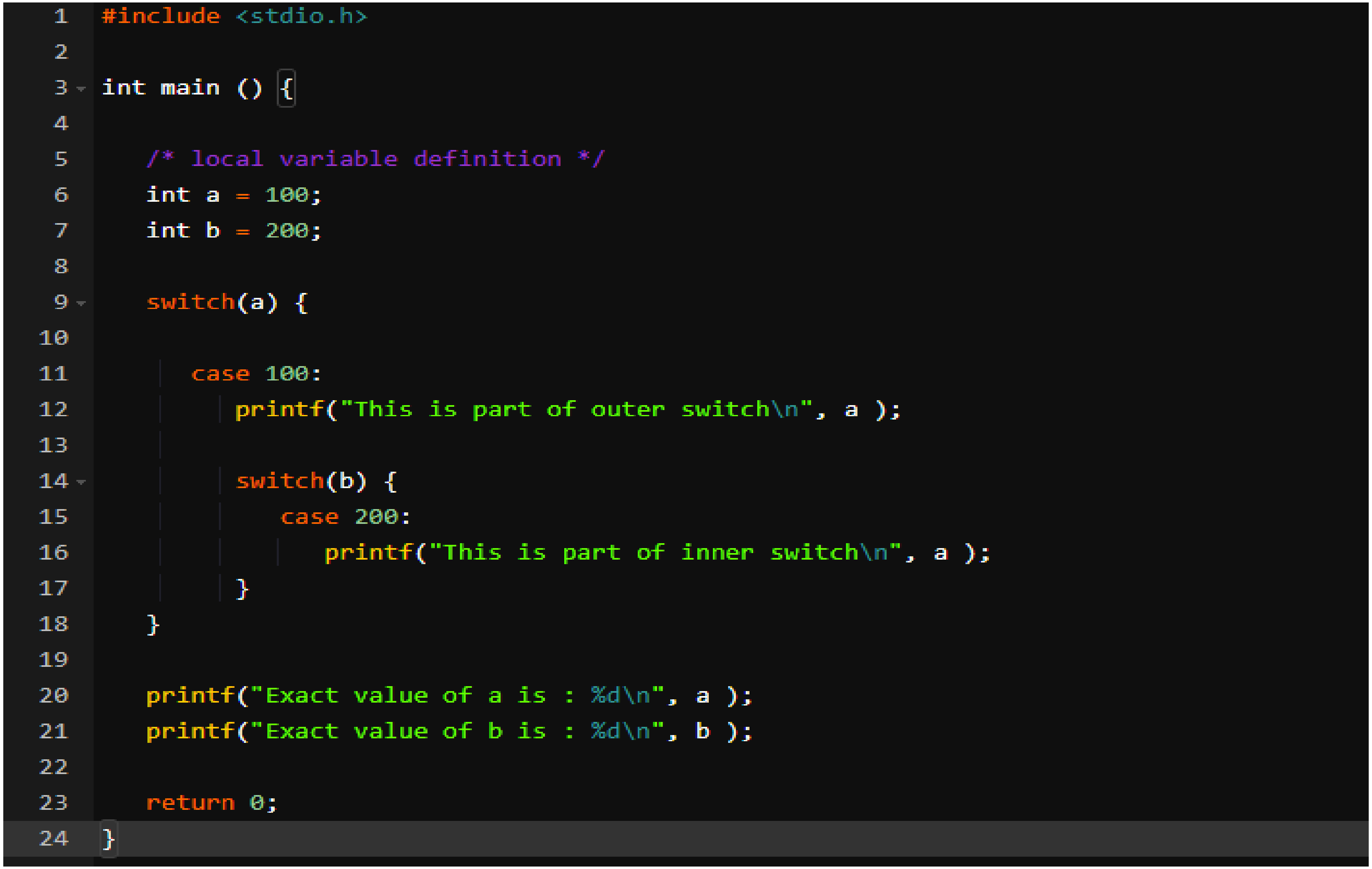
[illegible]

```
n = 3

The value of n is 3
```

nested switch statements

- It is possible to have a switch as a part of the statement sequence of an outer switch.
- Even if the case constants of the inner and outer switch contain common values, no conflicts will arise.

nested switch statements



```c
#include <stdio.h>

int main () {

   /* local variable definition */
   int a = 100;
   int b = 200;

   switch(a) {

      case 100:
         printf("This is part of outer switch\n", a );

         switch(b) {
            case 200:
               printf("This is part of inner switch\n", a );
         }
   }

   printf("Exact value of a is : %d\n", a );
   printf("Exact value of b is : %d\n", b );

   return 0;
}
```

Output:

```
This is part of outer switch
This is part of inner switch
Exact value of a is : 100
Exact value of b is : 200
```

THANK YOU