



## M3 Conditional Statement-II

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Objectives

Introduction

*switch ...case*  
Statement

Nested switch  
case

Example

Exercise

References

# Conditional Statement-II

Course: BTech in CSE  
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# Outline

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Objectives

Introduction

*switch ...case*  
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- 3 *`switch ...case` Statement*
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# Objectives

## M3 Conditional Statement-II

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### Objectives

### Introduction

### *switch ...case* Statement

### Nested switch case

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### Objectives

- Study on switch ...case statement with example
- Study on nested switch ...case statement with example



# Introduction[1],[2],[3]

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### Objectives

### Introduction

### *switch ...case* Statement

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### References

- ***switch ...case*** statement is similar to ***if ...else*** where ***case*** perform as ***if*** to check expression and ***default*** part behave as ***else***.
- Switch statement tests value of a variable and compares it with multiple cases. Once the case match is found, a block of statements associated with that particular case is executed.
- A menu based program is done in switch case.
- Same program is possible to solve by using ***if else*** and ***switch case*** statement.



# *switch ...case* Statement

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### *switch ...case* Statement Syntax

```
1 switch( expression )  
2 {  
3     case value1:  
4         statement1;  
5         statement2;  
6         break;  
7     case value2:  
8         statement1;  
9         statement2;  
10        break;  
11    case value3:  
12        statement1;  
13        statement2;  
14        break;  
15    default:  
16        statement1;  
17        statement2;  
18        break;  
19 }
```



# *switch ...case* Statement (Contd...)

## Example 1

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#### Objectives

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### *switch ...case* Statement

```
1  /* Simple switch case statement to select program language*/
2
3  #include <stdio.h>
4  int main()
5  {
6      int language = 10;
7      switch (language)
8      {
9          case 1:
10             printf("C#\n");
11             break;
12          case 2:
13             printf("C\n");
14             break;
15          case 3:
16             printf("C++\n");
17             break;
18          default:
19             printf("Other programming language\n");
20      }
21      return 0;
22 }
```

### Output

Other programming language



# switch ...case Statement (Contd...)

## Example 2

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### switch ...case Statement

```
1  /* switch case with missing break statement*/
2
3  #include <stdio.h>
4  int main()
5  {
6      int number;
7      printf("Please enter a number:\t");
8      scanf("%d", &number);
9      switch (number)
10     {
11         case 1:
12         case 2:
13         case 3:
14             printf("One, Two, or Three.\n");
15             break;
16         case 4:
17         case 5:
18         case 6:
19             printf("Four, Five, or Six.\n");
20             break;
21         default:
22             printf("Greater than Six.\n");
23     }
24     return 0;
25 }
```

### Output

Please enter a number: 5  
Four, Five, or Six.



# Nested *switch ...case* Statement

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### Objectives

### Introduction

### *switch ...case* Statement

### Nested *switch* *case*

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## Nested *switch ...case* Statement Syntax

```
1 switch( expression1 )
2 {
3     case value1:
4         statement1;
5         statement2;
6         break;
7     case value2:
8         switch(expression2)
9             {
10                case val1:
11                    statement1;
12                    statement2;
13                    break;
14                case val2:
15                    statement1;
16                    statement2;
17                    break;
18                default:
19                    statement1;
20                    statement2;
21                    break;
22            }
23     case value3:
24         statement1;
25         statement2;
26         Break;
27     default:
28         statement1;
29         statement2;
30         break;
31 }
```



# Nested *switch ...case* Statement (Contd...)

## Example 1

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#### Objectives

#### Introduction

#### *switch ...case* Statement

#### Nested *switch* *case*

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#### *switch ...case* Statement

```
1  /*Simple example of nested switch case statment*/
2
3  #include <stdio.h>
4  int main()
5  {
6      int ID = 500;
7      int password = 000;
8      printf("Plese Enter Your ID:\t");
9      scanf("%d", & ID);
10     switch (ID)
11     {
12         case 500: printf("Enter your password:\t");
13                   scanf("%d", & password);
14                   switch (password)
15                   {
16                       case 000: printf("Welcome Dear
17                               Programmer!!!\n");
18                               break;
19                       default: printf("Incorrect password.");
20                               break;
21                   }
22                   break;
23         default: printf("Incorrect ID");
24                   break;
25     }
26     return 0;
27 }
```

#### Output

Plese Enter Your ID: 500  
Enter your password: 000  
Welcome Dear Programmer!!!



# Example

## Example 1

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#### Objectives

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#### Example 01

```
1  /*switch——case expression with character*/
2
3  #include <stdio.h>
4  int main()
5  {
6      char ch='b';
7      switch (ch)
8      {
9          case 'd':
10             printf("CaseD ");
11             break;
12          case 'b':
13             printf("CaseB");
14             break;
15          case 'c':
16             printf("CaseC");
17             break;
18          case 'z':
19             printf("CaseZ ");
20             break;
21          default:
22             printf("Default ");
23      }
24      return 0;
25 }
```

#### Output

CaseB



# Example

## Example 2

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#### Example 01

```
1  /* Switch——case expression with calculation*/
2
3  #include <stdio.h>
4  int main()
5  {
6      int num=2;
7      switch(num+2)
8      {
9          case 1:
10             printf("Case1: Value is: %d", num);
11          case 2:
12             printf("Case1: Value is: %d", num);
13          case 3:
14             printf("Case1: Value is: %d", num);
15          default:
16             printf("Default: Value is: %d", num);
17      }
18      return 0;
19 }
```

#### Output

Default: Value is: 2



# Example

## Example 3

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#### Objectives

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#### switch ...case Statement

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#### switch ...case Statement

```
1 // Program to create a simple calculator
2 #include <stdio.h>
3 int main()
4 {
5     char operator;    double n1, n2;
6     printf("Enter an operator (+, -, *, /):\t");
7     scanf("%c", &operator);
8     printf("Enter two operands: ");
9     scanf("%lf %lf", &n1, &n2);
10
11     switch(operator)
12     {
13         case '+':
14             printf("%.1lf + %.1lf = %.1lf", n1, n2, n1+n2);
15             break;
16         case '-':
17             printf("%.1lf - %.1lf = %.1lf", n1, n2, n1-n2);
18             break;
19         case '*':
20             printf("%.1lf * %.1lf = %.1lf", n1, n2, n1*n2);
21             break;
22         case '/':
23             printf("%.1lf / %.1lf = %.1lf", n1, n2, n1/n2);
24             break;
25         // operator doesn't match any case constant +, -, *, /
26         default:
27             printf("Error! operator is not correct");
28     }
29     return 0;
30 }
```

#### Output

Enter an operator (+, -, \*, /): \*  
Enter two operands: 5 6  
5.0 \* 6.0 = 30.0



# Exercise

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### Exercise

- Write a C program to read weekday number and print weekday name using switch.
- Write a C program to check whether number is EVEN or ODD using switch.
- Write a C program to check whether a character is VOWEL or CONSONANT using switch.
- Write a C program to read gender (M/F) and print corresponding gender using switch.



# References I

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*Thank You...*