*Switch Statements*

*Lab Task # 4*

#  Lab 4

#  Switch Statements

Switch case statement is used when we have multiple conditions and we need to perform different action based on the condition. When we have multiple conditions and we need to execute a block of statements when a particular condition is satisfied. In such case either we can use lengthy if..else-if statement or switch case. The problem with lengthy if..else-if is that it becomes complex when we have several conditions. The switch case is a clean and efficient method of handling such scenarios.

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**Syntax of Switch statement**

switch (variable or an integer expression)

{

 case constant:

 //C++ code

 ;

 case constant:

 //C++ code

 ;

 default:

 //C++ code

 ;

}

## Break statement in Switch Case

**Program 1**

#include <iostream>

using namespace std;

int main(){

 int i=2;

 switch(i) {

 case 1: cout<<"Case1 "<<endl;

 case 2: cout<<"Case2 "<<endl;

 case 3: cout<<"Case3 "<<endl;

 case 4: cout<<"Case4 "<<endl;

 default: cout<<"Default "<<endl;

 }

 return 0;

}

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**Output:**

Case2

Case3

Case4

Default

In the above program, we have the variable i inside switch braces, which means whatever the value of variable i is, the corresponding case block gets executed. We have passed integer value 2 to the switch, so the control switched to the case 2, however we don’t have break statement after the case 2 that caused the flow to continue to the subsequent cases till the end. However this is not what we wanted, we wanted to execute the right case block and ignore rest blocks. The solution to this issue is to use the break statement in after every case block.

Break statements are used when you want your program-flow to come out of the switch body. Whenever a break statement is encountered in the switch body, the execution flow would directly come out of the switch, ignoring rest of the cases. This is why you must end each case block with the break statement.

**Program 2**

#include <iostream>

using namespace std;

int main(){

 int i=2;

 switch(i) {

 case 1:

 cout<<"Case1 "<<endl;

 break;

 case 2:

 cout<<"Case2 "<<endl;

 break;

 case 3:

 cout<<"Case3 "<<endl;

 break;

 case 4:

 cout<<"Case4 "<<endl;

 break;

 default:

 cout<<"Default "<<endl;

 }

 return 0;

}

*Switch Statements*

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**Output:**

Case2

**Program 3**

include <iostream>

using namespace std;

int main(){

 char ch='b';

 switch(ch) {

 case 'd': cout<<"Case1 ";

 break;

 case 'b': cout<<"Case2 ";

 break;

 case 'x': cout<<"Case3 ";

 break;

 case 'y': cout<<"Case4 ";

 break;

 default: cout<<"Default ";

 }

 return 0;

}

**Program 4**

#include <iostream>

using namespace std;

int main () {

 // local variable declaration:

 char grade = 'D';

 switch(grade) {

 case 'A' :

 cout << "Excellent!" << endl;

 break;

 case 'B' :

 case 'C' :

 cout << "Well done" << endl;

 break;

 case 'D' :

 cout << "You passed" << endl;

 break;

 case 'F' :

 cout << "Better try again" << endl;

 break;

 default :

 cout << "Invalid grade" << endl;

 }

 cout << "Your grade is " << grade << endl;

 return 0;

}

**Program 5**

#include <stdio.h>

**int** main()

{

 **char** ch;

 printf("Enter a character: ");

 scanf("%c",&ch);

 //condition to check character is alphabet or not

 **if**((ch>='A' && ch<='Z') || (ch>='a' && ch<='z'))

 {

 //check for VOWEL or CONSONANT

 **switch**(ch)

 {

 **case** 'A':

 **case** 'E':

 **case** 'I':

 **case** 'O':

 **case** 'U':

 **case** 'a':

 **case** 'e':

 **case** 'i':

 **case** 'o':

 **case** 'u':

 printf("%c is a VOWEL.\n",ch);

 **break**;

            **default**:

 printf("%c is a CONSONANT.\n",ch);

 }

 }

 **else**

 {

 printf("%c is not an alphabet.\n",ch);

 }

 **return** 0;

}

**HOME TASKS**

Q1. Write a program in C++ that take input of two integer‘s numbers from user. Find the largest number among three of them using switch statement.

Q2. Write a Program in C++ that take an Integer Value from the user and tell that the number is EVEN or ODD using switch statement.

Q3. Write a C++ program that will read **weekday number (0-6) and print weekday name (Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday)** according to given weekday number using switch case statement.

Q4. This program will read two integer numbers and an operator like +,-,\*,/,% and then **print the result according to given operator, it is a complete calculator program on basic arithmetic operators using switch.**

*Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*Marks Obtained: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*Instructor’s Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*