

Lecture 7

Switch Cases & Loops



QUIZ

قَالَ رَبِّ اشْرَحْ لِي صَدْرِي ۝
﴿٢٥﴾

[فَالَّذِي نَسِيَ كَهُولَ دَعَى رَبَّهُ أَشْرَحَ لَهُ مَنْ يَرَى لِي صَدْرِي مِيرَا سِينَهُ]

وَيَسِّرْ لِي آمْرِي ۝
﴿٢٦﴾

[وَيَسِّرْ لَهُ آمْرِي مِيرَا كَامَ لِي مِيرَا سِينَهُ]

وَاحْلُلْ عُقْدَةً مِنْ لِسَانِي ۝
﴿٢٧﴾

[وَاحْلُلْ لَهُ كَهُولَ دَعَى عُقْدَةً گَرَهَ مِنْ لِسَانِي مِيرَا زِبانَ سِينَهُ]

يَفْقَهُوا قَوْلِي ۝
﴿٢٨﴾

[يَفْقَهُوا وَهُوَ سِجْهَ سَكِينَ [قَوْلِي مِيرَا بَاتَ سِينَهُ]

4 QUESTIONS / FEEDBACK / CONCERNS



INFORMATION
TECHNOLOGY
UNIVERSITY

SE SECA SLIDE OF FAME

5



Muhammad Abdullah
BSSE23005
WEEK - 1



YOUR NAME
WEEK - 2



YOUR NAME
WEEK - 3



YOUR NAME
WEEK - 4



YOUR NAME
WEEK - 5



YOUR NAME
WEEK - 6



YOUR NAME
WEEK - 7



YOUR NAME
WEEK - 8



YOUR NAME
WEEK - 9



YOUR NAME
WEEK - 10



YOUR NAME
MIDTERM



YOUR NAME
WEEK - 11



YOUR NAME
WEEK - 12



YOUR NAME
WEEK - 13



YOUR NAME
WEEK - 14



YOUR NAME
WEEK - 15

SE SEC B SLIDE OF FAME

6



Muhammad Mukarram
BSSE23029
WEEK - 1



YOUR NAME
WEEK - 2



YOUR NAME
WEEK - 3



YOUR NAME
WEEK - 4



YOUR NAME
WEEK - 5



YOUR NAME
WEEK - 6



YOUR NAME
WEEK - 7



YOUR NAME
WEEK - 8



YOUR NAME
WEEK - 9



YOUR NAME
WEEK - 10



YOUR NAME
MIDTERM



YOUR NAME
WEEK - 11



YOUR NAME
WEEK - 12



YOUR NAME
WEEK - 13



YOUR NAME
WEEK - 14



YOUR NAME
WEEK - 15

RECAP

GitHub

Tools (Cygwin, IDE, GitHub)

Flowcharts

Algorithms

Approach towards a word problem

Pseudocode

Flowcharts Advantages & Disadvantages

Numbers Systems (Decimal, Binary, Octal & Hexadecimal)

Ten's Complement

Twos Complement

main function

Stream in and stream out operators

If else if

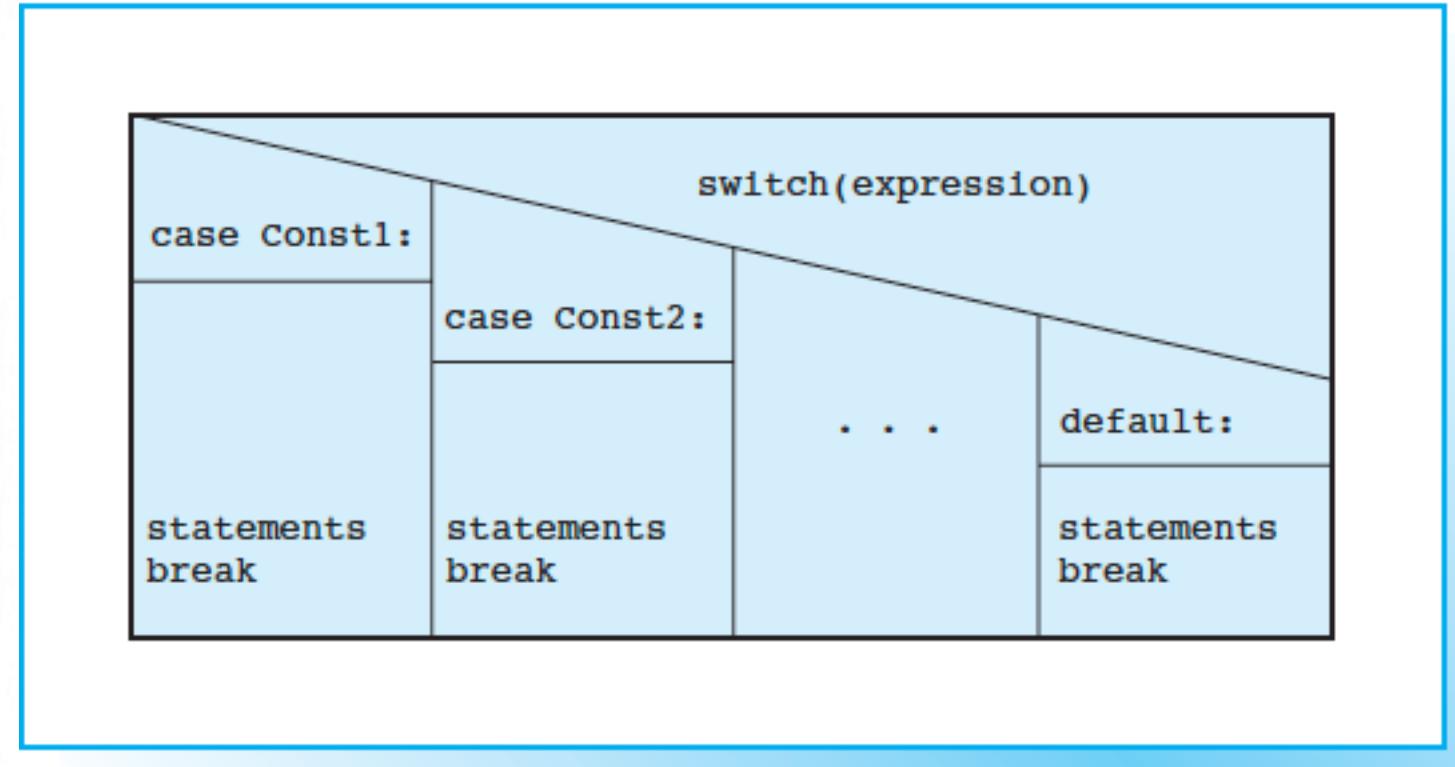
Functions

Data Types

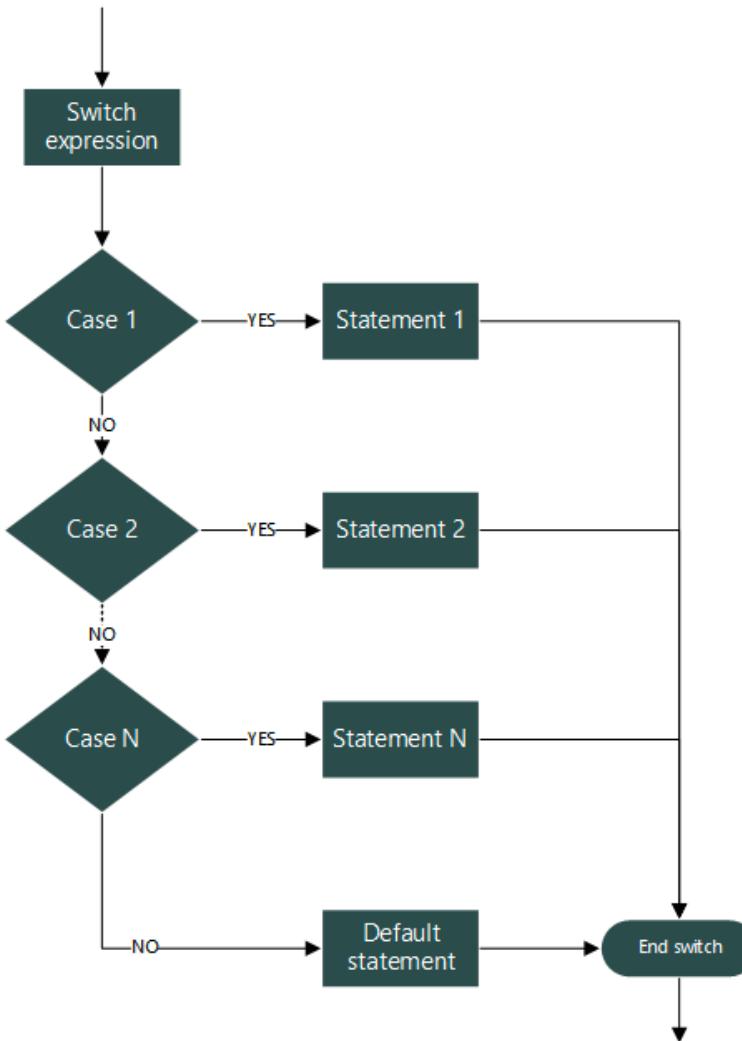
Arithmetic Operators

Relational Operators

SWITCH CASE



SWITCH CASE



```
switch (variable)
{
    case A:
    {
    }
    case B:
    {
    }
    case C:
    {
    }
};
```

```
char grade;
cout<<"Enter the Grade of your child: " ;
cin>>grade;
cout<<endl;

switch (grade)
{
    case 'A':
    {
        cout << "Your child is Excellent in class " ;
        break ;
    }
    case 'B' :
    {
        cout << "Your child is Very Good in class " ;
        break ;
    }
}
```

```
case 'C' :
{
    cout << "Your child is Good in class " ;
    break ;
}
case 'D' :
{
    cout << "Your child is Poor in class ";
    break ;
}
case 'F' :
{
    cout << "Your child is Fail in class ";
    break ;
}
}
```

```
#include<iostream.h>
#include<conio.h>

void main()
{
    int num;
    cout<<"Enter the Number of a Month: " ;
    cin>>num;
    cout<<endl;

    switch (num)
    {
        case 1:
        {
            cout << "This is the month of January " ;
            break ;
        }
        case 2:
        {
            cout << "This is the month of February " ;
            break ;
        }
        case 3:
        {
            cout << "This is the month of March " ;
            break ;
        }
        case 4:
        {
            cout << "This is the month of April " ;
            break ;
        }
    }
}
```

```
case 5:
{
    cout << "This is the month of May" ;
    break ;
}
case 6:
{
    cout << "This is the month of June " ;
    break ;
}
case 7:
{
    cout << "This is the month of July " ;
    break ;
}
case 8:
{
    cout << "This is the month of August" ;
    break ;
}
case 9:
{
    cout << "This is the month of September" ;
    break ;
}
case 10:
{
    cout << "This is the month of October " ;
    break ;
}
```

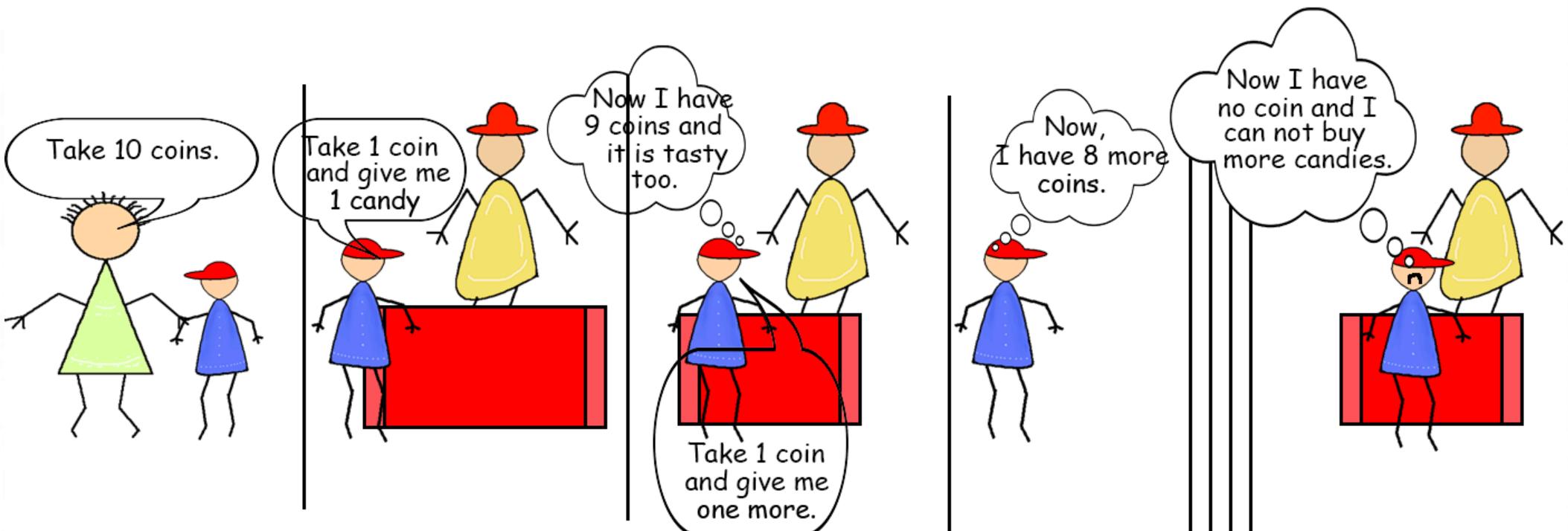
```
case 11:
{
    cout << "This is the month of November " ;
    break ;
}
case 12:
{
    cout << "This is the month of December" ;
    break ;
}
default:
{
    cout << "Your entered number is invalid" ;
    break ;
}
getch();
}
```

SWITCH CASE

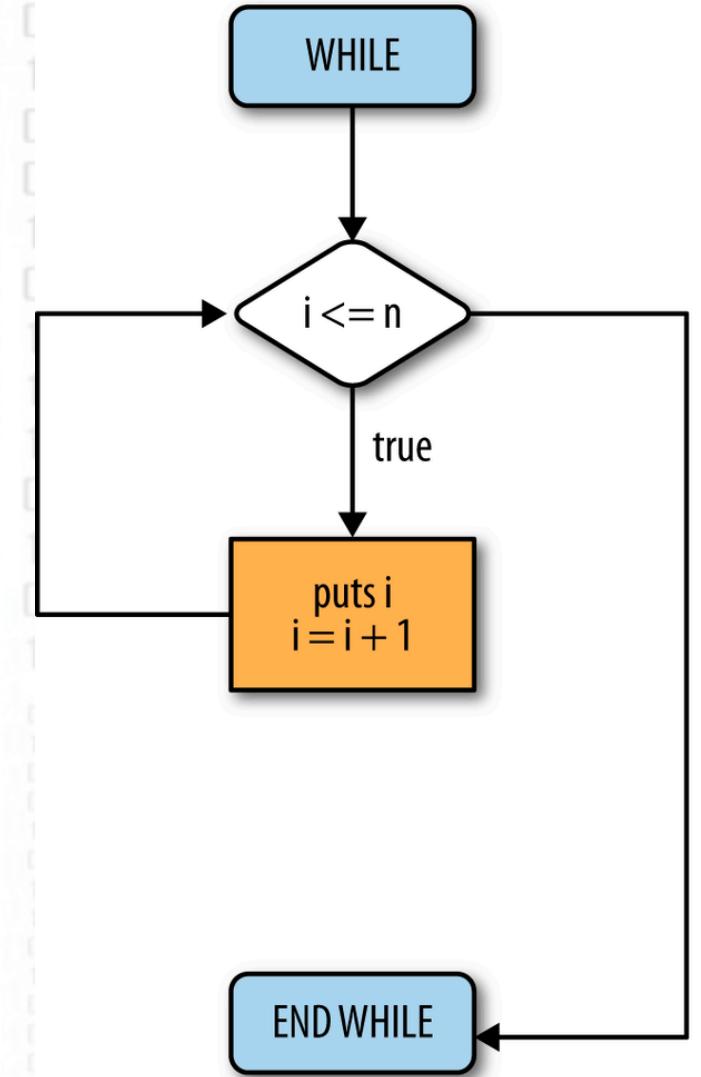
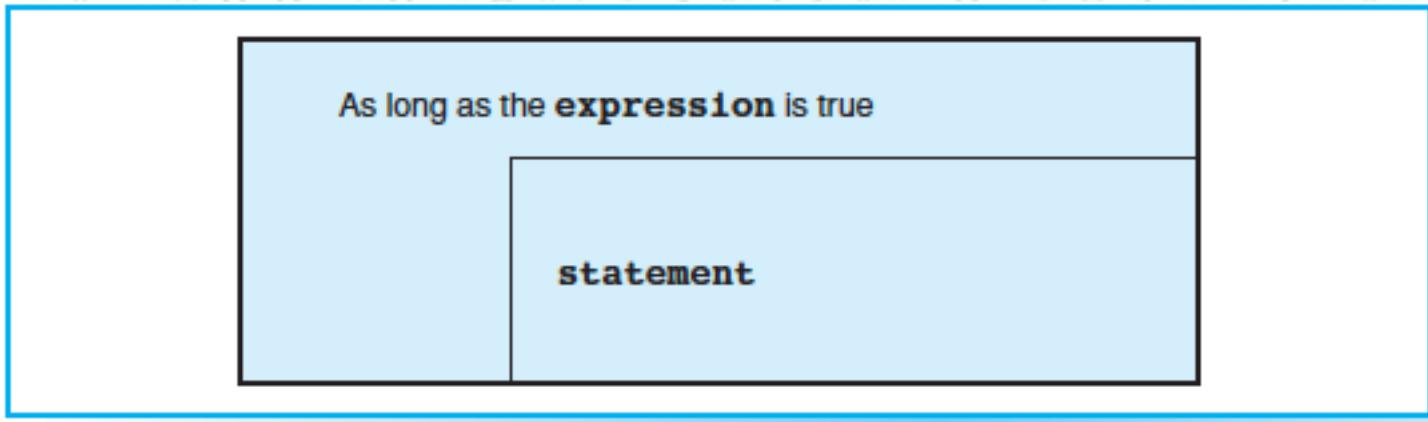
```
// Evaluates given input.

int command = menu();           // The function menu() reads
                                // a command.
switch( command )             // Evaluate command.
{
    case 'a':
    case 'A':
        action1();            // Carry out 1st action.
        break;
    case 'b':
    case 'B':
        action2();            // Carry out 2nd action.
        break;
    default:
        cout << '\a' << flush; // Beep on
                                // invalid input
}
```

LOOPS



WHILE LOOP



WHILE LOOP

```
while(condition)
{
    statement(s)
}
```

WHILE LOOP

```
int a = 1;  
while ( a < 4 )  
{  
    cout << "Hello World" << endl;  
    a ++;  
}
```

Output

codesdope.com

WHILE LOOP

```
// average.cpp
// Computing the average of numbers

#include <iostream>
using namespace std;

int main()
{
    int x, count = 0;
    float sum = 0.0;

    cout << "Please enter some integers:\n"
        " (Break with any letter)"
        << endl;
    while( cin >> x )
    {
        sum += x;
        ++count;
    }
    cout << "The average of the numbers: "
        << sum / count << endl;
    return 0;
}
```

```
#include <iostream>
int main(){
    using namespace std;
    int choice = 1;
    while( choice == 1 ){

        int a;

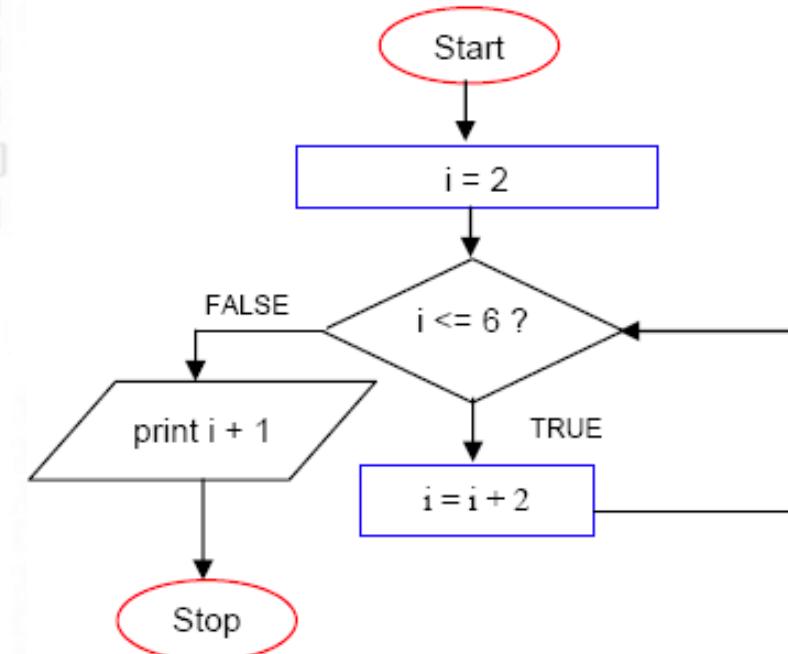
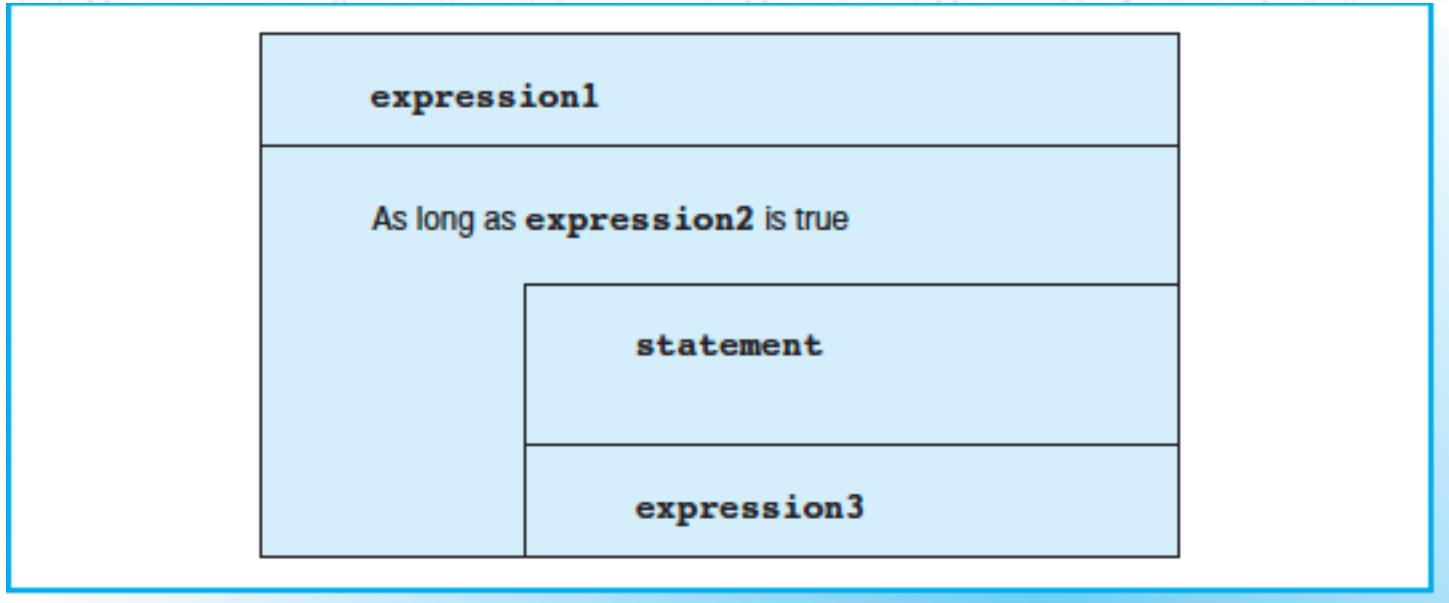
        cout << "Enter a number to check even or odd" << endl;
        cin >> a;      //input number

        //check whether number is even or odd

        if( a%2 == 0 ){
            cout << "Your number is even" << endl;
        }
        else{
            cout << "Your number is odd" << endl;
        }
        cout << "Want to check more : 1 for yes and 0 for no" << endl;
        cin >> choice;
    }
    cout << "I hope you checked all your numbers" << endl;
    return 0;
}
```

LOOPS

FOR LOOP



FOR LOOP

```
for(initialization; condition; propagation)
{
    statement(s)
}
```

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

int main(){
    int n;
    for( n = 1; n <= 10; n++ ){
        cout << n << endl;
    }
    return 0;
}
```

LOOPS

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

int main(){
    int sum = 0, i, n;
    for(i = 0; i < 10; i++){

        cout << "Enter number" << endl;
        cin >> n;

        sum = sum + n;

    }
    cout << "Sum is " << sum << endl;

    return 0;
}
```

LOOPS

FOR LOOP

```
// Euro1.cpp
#include <iostream>
#include <iomanip>
using namespace std;

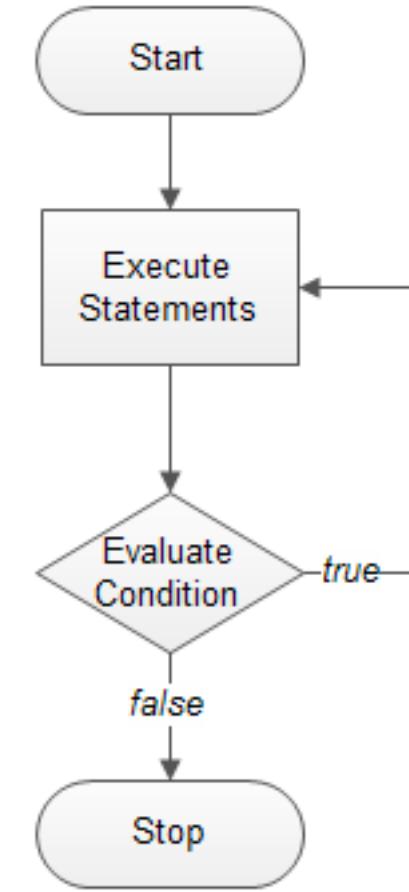
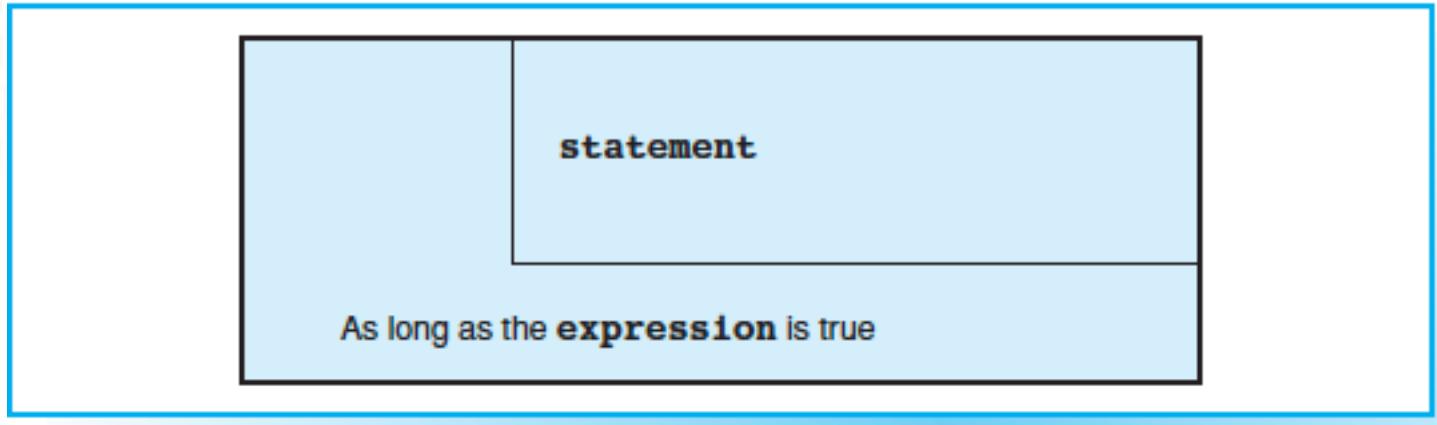
int main()
{
    double rate = 1.15;      // Exchange rate:
                           // one Euro to one Dollar
    cout << fixed << setprecision(2);

    cout << "\tEuro \tDollar\n";

    for( int euro = 1; euro <= 5; ++euro)
        cout << "\t " << euro
            << "\t " << euro*rate << endl;

    return 0;
}
```

DO WHILE LOOP



DO WHILE LOOP

```
do{  
    statement(s)  
}  
while( condition );
```

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

int main(){
    int n = 1;
    do{
        cout << n << endl;
        n++;
    }while( n <= 10 );
    return 0;
}
```

LOOPS

DO WHILE LOOP

```
// tone.cpp
#include <iostream>
using namespace std;

const long delay = 10000000L;

int main()
{
    int tic;
    cout << "\nHow often should the tone be output? ";
    cin >> tic;

    do
    {
        for( long i = 0; i < delay; ++i )
            ;
        cout << "Now the tone!\a" << endl;
    }
    while( --tic > 0 );

    cout << "End of the acoustic interlude!\n";

    return 0;
}
```

Repeatedly ask the user to enter a number until the user enters -1. Calculate sum of all numbers entered by user and store it in 'Sum'. If the user enters -1, print the sum and terminate the program. [25 marks]

e.g. User enters the number in following order:

4 1 7 0 5 -1

Then program should print 17 (since Sum=17)

