BİL106 Nesne Yönelimli Programlama

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Bilgisayar Mühendisliği Bölümü

Bölüm 3: Döngüler ve Kararlar

İlişkisel Operatörler

› İki değerin karşılaştırıldığı yapılardır

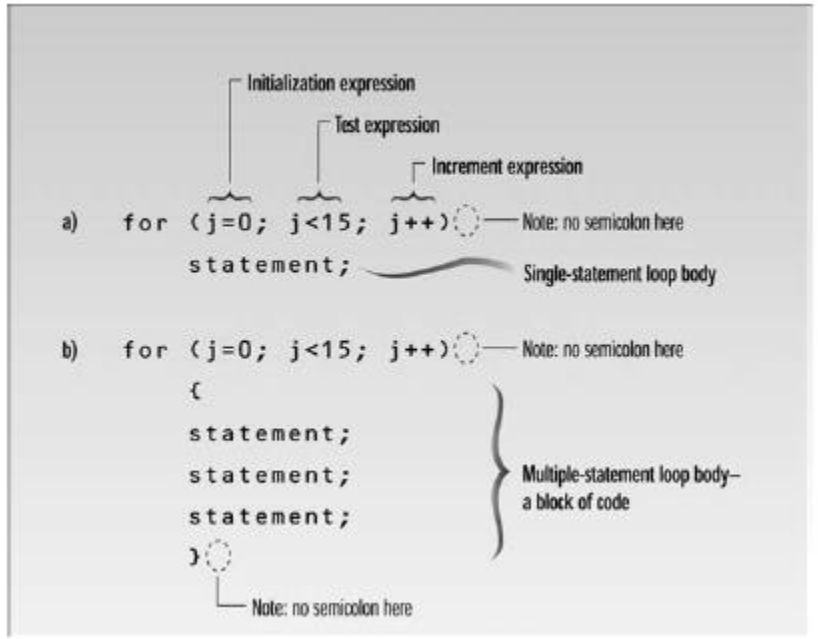
Operator	Name	Example
==	Equal to	x == y
!=	Not equal	x != y
>	Greater than	x > y
<	Less than	x < y
>=	Greater than or equal to	x >= y
<=	Less than or equal to	x <= y

İlişkisel Operatörler

```
// relat.cpp
// demonstrates relational operators
#include <iostream>
using namespace std;

int main()
   {
   int numb;

   cout << "Enter a number: ";
   cin >> numb;
   cout << "numb<10  is " << (numb < 10)  << endl;
   cout << "numb>10  is " << (numb > 10)  << endl;
   cout << "numb==10 is " << (numb == 10) << endl;
   return 0;
   }
```

for döngüsü

```
// fordemo.cpp
// demonstrates simple FOR loop
#include <iostream>
using namespace std;

int main()
   {
   int j;                       //define a loop variable

   for(j=0; j<15; j++)          //loop from 0 to 14,
      cout << j * j << "   ";   //displaying the square of j
   cout << endl;
   return 0;
   }
```



for döngüsü

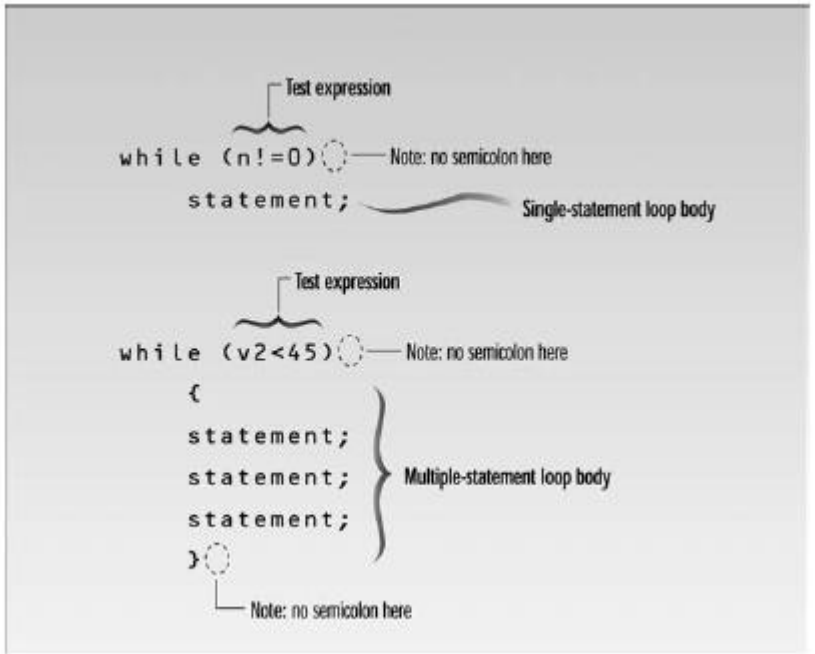
```
#include <iomanip>                      //for setw
using namespace std;

int main()
   {
   int numb;                            //define loop variable

   for(numb=1; numb<=10; numb++)        //loop from 1 to 10
      {
      cout << setw(4) << numb;          //display 1st column
      int cube = numb*numb*numb;        //calculate cube
      cout << setw(6) << cube << endl;  //display 2nd column
      }
   return 0;
   }
```

Here's the output from the program:

```
   1     1
   2     8
   3    27
   4    64
   5   125
   6   216
   7   343
   8   512
   9   729
  10  1000
```

while döngüsü

```
// endon0.cpp
// demonstrates WHILE loop
#include <iostream>
using namespace std;

int main()
   {
   int n = 99;          // make sure n isn't initialized to 0

   while( n != 0 )      // loop until n is 0
      cin >> n;         // read a number into n
   cout << endl;
   return 0;
   }
```

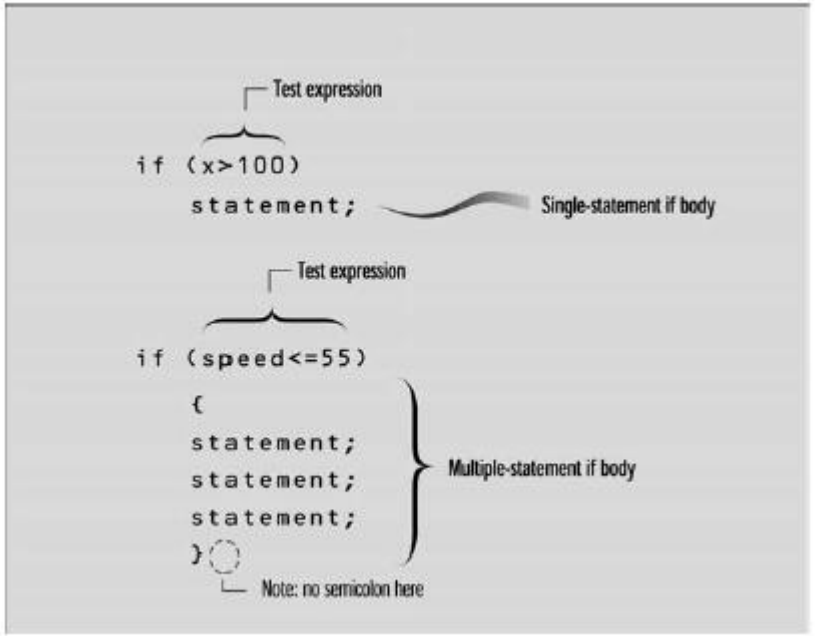


do döngüsü

```
// divdo.cpp
// demonstrates DO loop
#include <iostream>
using namespace std;

int main()
   {
   long dividend, divisor;
   char ch;

   do                                    //start of do loop
      {                                  //do some processing
      cout << "Enter dividend: "; cin >> dividend;
      cout << "Enter divisor: ";  cin >> divisor;
      cout << "Quotient is " << dividend / divisor;
      cout << ", remainder is " << dividend % divisor;

      cout << "\nDo another? (y/n): ";  //do it again?
      cin >> ch;
      }
   while( ch != 'n' );                   //loop condition
   return 0;
   }
```

if ifadesi

```
// ifdemo.cpp
// demonstrates IF statement
#include <iostream>
using namespace std;

int main()
   {
   int x;

   cout << "Enter a number: ";
   cin >> x;
   if( x > 100 )
      cout << "That number is greater than 100\n";
   return 0;
   }
```



if-else ifadesi

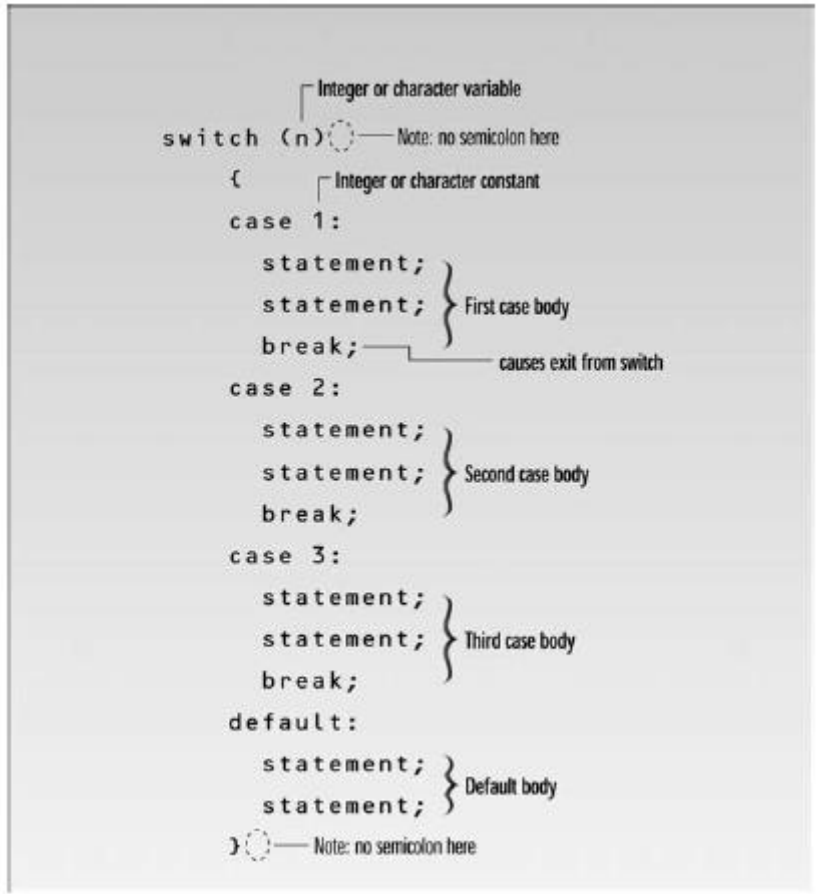
```
// ifelse.cpp
// demonstrates IF...ELSE statememt
#include <iostream>
using namespace std;

int main()
   {
   int x;

   cout << "\nEnter a number: ";
   cin >> x;
   if( x > 100 )
      cout << "That number is greater than 100\n";
   else
      cout << "That number is not greater than 100\n";
   return 0;
   }
```

İç içe if-else

```
// adifelse.cpp
// demonstrates IF...ELSE with adventure program
#include <iostream>
using namespace std;
#include <conio.h>              //for getche()

int main()
   {
   char dir='a';
   int x=10, y=10;

   cout << "Type Enter to quit\n";
   while( dir != '\r' )         //until Enter is typed
      {
      cout << "\nYour location is " << x << ", " << y;
      cout << "\nPress direction key (n, s, e, w): ";

      dir = getche();           //get character
      if( dir=='n')             //go north
         y--;
      else
         if( dir=='s' )         //go south
            y++;
         else
            if( dir=='e' )      //go east
               x++;
            else
               if( dir=='w' )   //go west
                  x--;
      }  //end while
   return 0;
   }  //end main
```

switch ifadesi

```
// platters.cpp
// demonstrates SWITCH statement
#include <iostream>
using namespace std;

int main()
   {
   int speed;                        //turntable speed

   cout << "\nEnter 33, 45, or 78: ";
   cin >> speed;                     //user enters speed
   switch(speed)                     //selection based on speed
      {
      case 33:                       //user entered 33
         cout << "LP album\n";
         break;
      case 45:                       //user entered 45
         cout << "Single selection\n";
         break;
      case 78:                       //user entered 78
         cout << "Obsolete format\n";
         break;
      }
   return 0;
   }
```



getche() fonksiyonu

```
// chcount.cpp
// counts characters and words typed in
#include <iostream>
using namespace std;
#include <conio.h>              //for getche()

int main()
   {
   int chcount=0;               //counts non-space characters
   int wdcount=1;               //counts spaces between words
   char ch = 'a';               //ensure it isn't '\r'

   cout << "Enter a phrase: ";
   while( ch != '\r' )          //loop until Enter typed
      {
      ch = getche();            //read one character
      if( ch==' ' )             //if it's a space
      wdcount++;                //count a word
      else                      //otherwise,
      chcount++;                //count a character
      }                         //display results
   cout << "\nWords=" << wdcount << endl
        << "Letters=" << (chcount-1) << endl;
   return 0;
   }
```

Mantıksal and operatörü

```
// advenand.cpp
// demonstrates AND logical operator
#include <iostream>
using namespace std;
#include <process.h>            //for exit()
#include <conio.h>              //for getche()

int main()
   {
   char dir='a';
   int x=10, y=10;

   while( dir != '\r' )
      {
      cout << "\nYour location is " << x << ", " << y;
      cout << "\nEnter direction (n, s, e, w): ";
      dir = getche();           //get direction
      switch(dir)
         {
         case 'n': y--; break;  //update coordinates
         case 's': y++; break;
         case 'e': x++; break;
         case 'w': x--; break;
         }
      if( x==7 && y==11 )       //if x is 7 and y is 11
         {
         cout << "\nYou found the treasure!\n";
         exit(0);               //exit from program
         }
      }  //end switch
   return 0;
   }  //end main
```

Break-continue

```
// divdo2.cpp
// demonstrates CONTINUE statement
#include <iostream>
using namespace std;

int main()
   {
   long dividend, divisor;
   char ch;


  do {
     cout << "Enter dividend: "; cin >> dividend;
     cout << "Enter divisor: ";  cin >> divisor;
     if( divisor == 0 )                //if attempt to
        {                              //divide by 0,
        cout << "Illegal divisor\n";   //display message
        continue;                      //go to top of loop
        }
     cout << "Quotient is " << dividend / divisor;
     cout << ", remainder is " << dividend % divisor;

     cout << "\nDo another? (y/n): ";
     cin >> ch;
     } while( ch != 'n' );
  return 0;
  }
```