

EEM103 Computer Programming

Week5

- Expressions and Statements
- Selection structures
 - if, if-else
 - switch
- Iteration structures
 - while loops
- IO functions in C++

1

Expression & Statement (İfade & Deyim)

- **Expression** is a combination of one or more explicit **values**, **constants**, **variables**, **operators**, and **functions** that can produce a value.
- ; → statement terminator
- **Statement** is the smallest standalone element of an programming language that expresses some action

«Expression» + «Statement terminator» → «Statement»
`c = a*b-5 /*expression*/`
`c = a*b-5 ; /*statement*/`

2

Kinds of statements

- 1. Simple statements:
statements that consists of single expression.
e.g. $a=b+c;$
- 2. Compound statements:
Contains more than one statements. E.g;

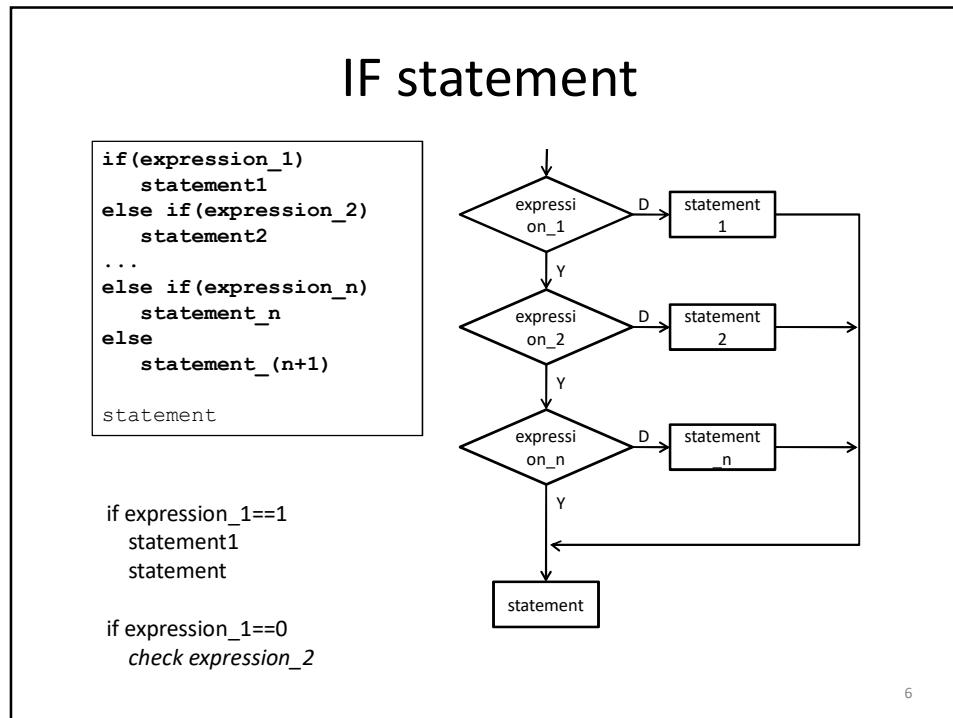
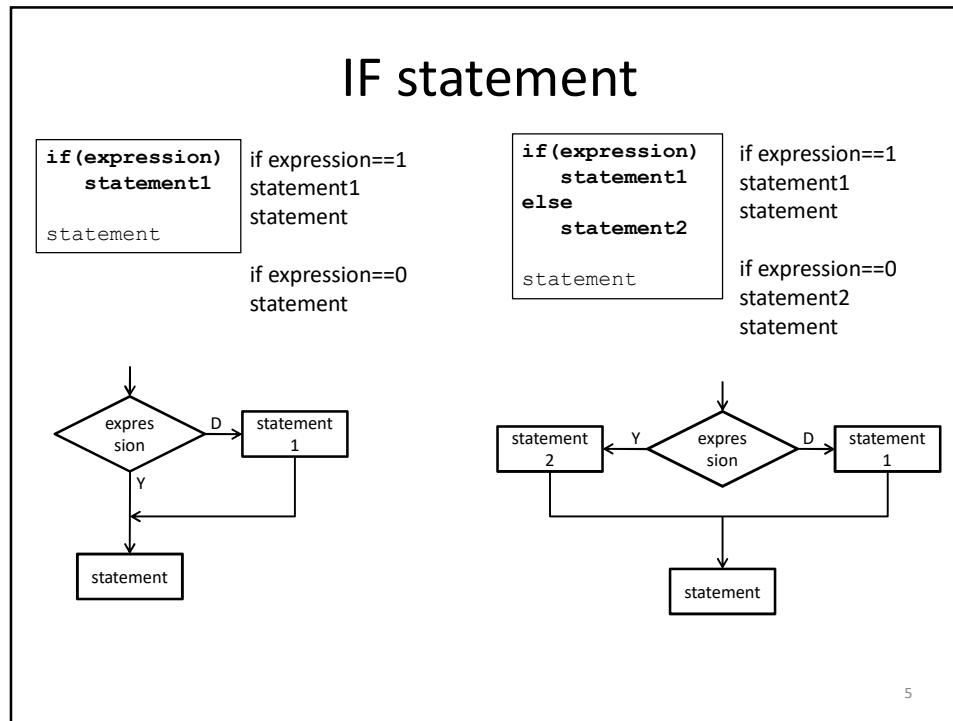
```
{  
    statement1  
    statement2  
    statement3  
}
```

3

Selection structures in C

IF
SWITCH-CASE
?: (conditional operator)

4



Logical expression

```

if(a<4)
if(a<4&&b!=8)
if((4&b) !=8)

if(1)
if(a)
if(a+15)
if(a%4!=0) <--> if(a%4)
...

```

```

if (expression)
  statement1
statement

```

```

!!!
if(a<5)
{
}
else
  a++;

```

7

switch case

```

switch(expression)
{
  case value1:
    ...
  case value2:
    ...
    ...
  case value_n :
    ...
  default:
    ...
}

```

```

switch(expression)
{
  case value1:
    ...
    break;
  case value2:
    ...
    break;
    ...
  case value_n :
    ...
    break;
  default:
    ...
}

```

```

int a=2;
switch(a)
{
  case 1:
    printf("one");
    break;
  case 2:
    printf("two");
    break;
  case 3:
    printf("three");
    break;
  default:
    printf("??");
}

```

8

Conditional operator

..... ? :

e.g: finding absolute value by using condition operator:

```
abs_a = (a>=0) ? a : -a ;  
  
(a>=0) ? (abs_a = a) : (abs_a = -a) ;
```

9

'while' Iteration Statement

```
while(expression)  
    statement1  
  
    statement
```

Repeat statement1 as long as expression is TRUE

i.e.
statement1
statement1
...
statement1
statement

10