

Database Design & Applications

Programming Constructs



Objectives

- Declaring and Defining Variables
- Blocks in SQLServer
- Selection Statements
- Iteration Statements



Using Variables

- **Declare Keyword**

- The Declare keyword enables you to declare several variables within a single statement.

```
declare @name1 char(30)
```

```
declare @lname varchar(30), @salary money
```

- **Initializing Variable**

```
declare @lname varchar(30)
```

```
select @lname = 'smith'
```

```
declare @fname char(30)
```

```
set @lname = 'billy'
```

Retrieving Data into Local Variables

- Variables often store data that has been retrieved from database.

```
declare @lname varchar(30), @salary decimal
select @lname = last_name, @salary = salary
from employees where employee_id = 110
print @lname
print @salary
```

- Using local variables in SQL statements:

```
declare @empid int = 7839
select * from employee where employee_id = @empid
```

BEGIN and END Statements

- Transact SQL (TSQL) uses the BEGIN and statements to signify begin and end of a block.

BEGIN

Statement1

Statement2

Statement3

.....

END

IF ... ELSE Statements

- The IF...ELSE statement is a control-flow statement that allows you to execute or skip a statement block based on a specified condition.

```
IF Boolean_expression
```

```
    BEGIN
```

```
        -- Statement block executes when the Boolean expression is TRUE
```

```
    END
```

```
ELSE
```

```
    BEGIN
```

```
        -- Statement block executes when the Boolean expression is FALSE
```

```
    END
```

```
END
```


IF ... ELSE Statements

- Example:

```
declare @age int =15;  
if @age >18  
    print 'eligible to vote'  
else  
    print 'not eligible to vote'
```



IF ... ELSE IF Statements

```
declare @vdeptid int
declare @vempid int
set @vempid=110
select @vdeptid =department_id
from employee
where employee_id =@vempid
if @vdeptid =10
    begin
        print @vdeptid
        update employee set
        salary =salary+1000 where
        employee_id=@vempid
    end
```

```
else if @vdeptid =20
    begin
        print @vdeptid
        update employee set
        salary =salary+2000
        where employee_id=@vempid
    end
else
    begin
        print 'no increment'
    end
```


While Statement

- The WHILE statement is a control-flow statement that allows you to execute a statement block repeatedly as long as a specified condition is TRUE.

```
declare @vcount int =0
while @vcount <=5
begin
    print @vcount
    set @vcount =@vcount +1
end
```

THANK YOU!

