--- 8 лаба

use UNIVER;

--- 1 задание

use univer;

declare

@ch char(1) = 'char',

@vch varchar(3) = 'var',

@date datetime,

@time time = '18:39:00',

@i int,

@smi smallint,

@tint tinyint = 2,

@num numeric(12, 5);

set @date = '04-21-22 18:39:00';

set @smi = (select count(\*) from GROUPS) + @tint;

select @num = 11111.11111;

select @date [@datetime], @time [@time], @smi [@smi], @num [@num];

print 'ch = ' + cast(@ch as varchar(10));

print 'vch = ' + cast(@vch as varchar(10));

print 'tint = ' + cast(@tint as varchar(10));

--- 2 задание

declare

@totalCapacity int = (

select sum(AUDITORIUM.AUDITORIUM\_CAPACITY)

from AUDITORIUM

),

@lessThanAverage int,

@averageCapacity float(10),

@totalAuditoriums int;

if @totalCapacity > 200

begin

select

@averageCapacity = (

select cast(avg(AUDITORIUM.AUDITORIUM\_CAPACITY) as float(10))

from AUDITORIUM

),

@totalAuditoriums = (

select count(\*)

from AUDITORIUM

);

set @lessThanAverage = (

select count(\*)

from AUDITORIUM

where AUDITORIUM.AUDITORIUM\_CAPACITY < @averageCapacity

);

select

@totalCapacity [Total\_Capacity],

@averageCapacity [Average\_Capacity],

@totalAuditoriums [Auditoriums\_Count],

@lessThanAverage [Less\_Than\_Average],

cast((100.0 \* @lessThanAverage / @totalAuditoriums) as float(2)) [Less\_Percentage]

end

else

begin

print 'Total capacity: ' + cast(@totalCapacity as varchar(10));

end

--- 3 задание

print '@@ROWCOUNT = ' + cast(@@ROWCOUNT as varchar(10));

print '@@VERSION = ' + cast(@@VERSION as varchar(10));

print '@@SPID = ' + cast(@@SPID as varchar(10));

print '@@ERROR = ' + cast(@@ERROR as varchar(10));

print '@@SERVERNAME = ' + cast(@@SERVERNAME as varchar(10));

print '@@TRANCOUNT = ' + cast(@@TRANCOUNT as varchar(10));

print '@@FETCH\_STATUS = ' + cast(@@FETCH\_STATUS as varchar(10));

print '@@NESTLEVEL = ' + cast(@@NESTLEVEL as varchar(10));

--- 4 задание

declare @x int = 2, @t int = 3, @z float;

if (@t > @x) set @z = power(sin(@t), 2);

else if (@t < @x) set @z = 4 \* (@t + @x);

else if @z = 1 - exp(@x - 2)

print 'x = ' + cast(@x as varchar(10));

print 't = ' + cast(@t as varchar(10));

print 'z = ' + cast(@z as varchar(10));

declare @FIO varchar(50) = 'Макейчик Татьяна Леонидовна ';

set @FIO = (

select

substring(@FIO, 1, charindex(' ', @FIO)) +

substring(@FIO, charindex(' ', @FIO) + 1, 1) + '.'+

substring(@FIO, charindex(' ', @FIO, charindex(' ', @FIO) + 1) + 1, 1) + '.'

);

print 'Initials: ' + @FIO;

declare @nextMonth int = MONTH(GETDATE()) + 1;

select

STUDENT.NAME,

STUDENT.BDAY

from STUDENT

where month(STUDENT.BDAY) = @nextMonth;

select distinct

PROGRESS.SUBJECT\_T,

PROGRESS.PDATE,

datename(DW, PROGRESS.PDATE) [Day of week]

from PROGRESS

where PROGRESS.SUBJECT\_T = 'СУБД';

--- 5 задание

declare @lectureAuditories int = (

select count(\*)

from AUDITORIUM

where AUDITORIUM.AUDITORIUM\_TYPE like 'ЛК%'

);

if(@lectureAuditories > 5)

begin

print 'Count of lecture auditories > 5';

end

else

begin

select \*

from AUDITORIUM

where AUDITORIUM.AUDITORIUM\_TYPE like 'ЛК%';

end

--- 6 задание

select \*

from (

select

case

when (PROGRESS.NOTE IN (9, 10)) then 'отлично'

when (PROGRESS.NOTE IN (7, 8)) then 'хорошо'

when (PROGRESS.NOTE IN (4, 5, 6)) then 'нормально'

else 'плохо'

end [MARK],

count(\*) [COUNT]

from PROGRESS

group by case

when (PROGRESS.NOTE IN (9, 10)) then 'отлично'

when (PROGRESS.NOTE IN (7, 8)) then 'хорошо'

when (PROGRESS.NOTE IN (4, 5, 6)) then 'нормально'

else 'плохо'

end

) as T

order by

case [MARK]

when 'отлично' then 1

when 'хорошо' then 2

when 'нормально' then 3

else 4

end;

--- 7 задание

create table #LOCAL (

ID int NOT NULL identity(1,1) primary key,

[RAND] int

);

declare @j int = 0;

while (@j < 100)

begin

insert #LOCAL([RAND])

values(@j \* rand());

set @j = @j + 1;

end;

--- 8 задание

while (@j > 0)

begin

insert #LOCAL([RAND])

values (@j \* rand());

set @j = @j + 1;

if(@j >= 1)

return;

end

select \*

from #LOCAL;

drop table #LOCAL

--- 9 задание

use univer;

begin try

select \*

from AUDITORIUM

where AUDITORIUM.AUDITORIUM = 123;

end try

begin catch

print 'Error code: ' + cast(ERROR\_NUMBER() as varchar(10))

print 'Error message: ' + ERROR\_MESSAGE()

print 'Error line: ' + cast(ERROR\_LINE() as varchar(10))

print 'Proceedure name: ' + cast(ERROR\_PROCEDURE() as varchar(10))

print 'Error serverity: ' + cast(ERROR\_SEVERITY() as varchar(10))

print 'Error state: ' + cast(ERROR\_STATE() as varchar(10))

end catch