

ДОДАТОК А

Вихідний код програми

```

/* Server version: WI-V6.3.7.33374 Firebird 3.0
   Page size: 16384. Cache pages: 2048 (32768 Kb). */
SET CLIENTLIB 'fbclient.dll';
SET NAMES WIN1251;

SET SQL DIALECT 3;
SET AUTODDL ON;

/*****
****
Creating stored procedures
****
*****/
SET TERM ^ ;

CREATE PROCEDURE SORT_MF(
  KEYS /* VARCHAR_10_DOMAIN */ VARCHAR(10) /* COLLATE WIN1251
- default */,
  PNAME /* VARCHAR_30_DOMAIN */ VARCHAR(30) /* COLLATE WIN1251
- default */,
  X /* SUMM_DOMAIN */ NUMERIC(15,2))
RETURNS (
  NAME /* VARCHAR_30_DOMAIN */ VARCHAR(30) /* COLLATE WIN1251
- default */,
  OSN /* INTEGER_DOMAIN */ INTEGER,
  Y /* SUMM_DOMAIN */ NUMERIC(15,2))
AS
BEGIN
  SUSPEND;
END
^
/*****/

```

```

/****          Creating stored functions          *****/
/*****
CREATE FUNCTION MF(
  KEYS /* VARCHAR_10_DOMAIN */ VARCHAR(10) /* COLLATE WIN1251
- default */,
  NAME /* VARCHAR_30_DOMAIN */ VARCHAR(30) /* COLLATE WIN1251
- default */,
  X /* SUMM_DOMAIN */ NUMERIC(15,2))
RETURNS BOOLEAN
AS
BEGIN
  RETURN NULL;
END
^

CREATE FUNCTION MF_X(
  KEYS /* VARCHAR_10_DOMAIN */ VARCHAR(10) /* COLLATE WIN1251
- default */,
  NAME /* VARCHAR_30_DOMAIN */ VARCHAR(30) /* COLLATE WIN1251
- default */,
  X /* SUMM_DOMAIN */ NUMERIC(15,2))
RETURNS /* SUMM_DOMAIN */ NUMERIC(15,2)
AS
BEGIN
  RETURN NULL;
END
^

/*****
/****          Creating domains          *****/
/*****
SET TERM ; ^

```

```
CREATE DOMAIN INTEGER_DOMAIN
AS INTEGER;
```

```
CREATE DOMAIN SUMM_DOMAIN
AS NUMERIC(15,2);
```

```
CREATE DOMAIN VARCHAR_10_DOMAIN
AS VARCHAR(10) /* COLLATE WIN1251 - default */;
```

```
CREATE DOMAIN VARCHAR_30_DOMAIN
AS VARCHAR(30) /* COLLATE WIN1251 - default */;
```

```

/*****
/****   Creating tables (without computed fields)   ****
/*****/
```

```
CREATE TABLE AFFILIATION (
    ID INTEGER_DOMAIN NOT NULL,
    KEYS VARCHAR_10_DOMAIN /* COLLATE WIN1251 - default */,
    NAME VARCHAR_30_DOMAIN /* COLLATE WIN1251 - default */,
    FA SUMM_DOMAIN,
    FB SUMM_DOMAIN,
    FC SUMM_DOMAIN,
    FD SUMM_DOMAIN);
```

```
CREATE TABLE FLAT (
    ID INTEGER_DOMAIN NOT NULL,
    ADRES VARCHAR_30_DOMAIN /* COLLATE WIN1251 - default */,
    ROOM SUMM_DOMAIN,
    SQ SUMM_DOMAIN,
    BALKON SUMM_DOMAIN,
    COST SUMM_DOMAIN);
```

```

/*****/
```

```

/****          Creating primary key constraints          ****/
/*****
RECONNECT;

ALTER TABLE AFFILIATION ADD CONSTRAINT PK_AFFILIATION PRIMARY
KEY (ID);

ALTER TABLE FLAT ADD CONSTRAINT PK_FLAT PRIMARY KEY (ID);

/*****
/****          Creating triggers          ****/
/*****
SET TERM ^ ;

CREATE TRIGGER AFFILIATION_BI FOR AFFILIATION
ACTIVE
BEFORE INSERT
POSITION 0
as
begin
    if (new.id is null) then
        new.id = gen_id(gen_affiliation_id,1);
end
^

CREATE TRIGGER FLAT_BI FOR FLAT
ACTIVE
BEFORE INSERT
POSITION 0
as
begin
    if (new.id is null) then
        new.id = gen_id(gen_flat_id,1);

```

```

end
^

/*****
/****          Altering stored procedures          ****/
/*****

ALTER PROCEDURE SORT_MF(
    KEYS VARCHAR_10_DOMAIN /* COLLATE WIN1251 - default */,
    PNAME VARCHAR_30_DOMAIN /* COLLATE WIN1251 - default */,
    X SUMM_DOMAIN)
RETURNS (
    NAME VARCHAR_30_DOMAIN /* COLLATE WIN1251 - default */,
    OSN INTEGER_DOMAIN,
    Y SUMM_DOMAIN)
AS
begin
    for select name from AFFILIATION a where a.keys=:KEYS
        into :name do
        begin
            osn=0;
            if (PNAME=name) then osn=1;
            Y=MF_X(:KEYS, :name, :X);
            suspend;
        end
    end
end
^

/*****
/****          Altering stored functions          ****/
/*****

ALTER FUNCTION MF(
    KEYS VARCHAR_10_DOMAIN /* COLLATE WIN1251 - default */,
    NAME VARCHAR_30_DOMAIN /* COLLATE WIN1251 - default */,

```

```

    X SUMM_DOMAIN)
RETURNS BOOLEAN
AS
declare variable FF SUMM_DOMAIN;
declare variable OSN INTEGER_DOMAIN;
begin
    ff=0; osn=0;
    SELECT first 1 Y,osn FROM SORT_MF(:KEYS,:NAME,:X)
        order by Y desc, osn desc
        into :ff,:osn;
    if (osn=0) then ff=0;
    ---
    if (ff>0)
        then return true;
        else return false;
end
^

ALTER FUNCTION MF_X(
    KEYS VARCHAR_10_DOMAIN /* COLLATE WIN1251 - default */,
    NAME VARCHAR_30_DOMAIN /* COLLATE WIN1251 - default */,
    X SUMM_DOMAIN)
RETURNS SUMM_DOMAIN
AS
declare variable FF SUMM_DOMAIN;
declare variable FA SUMM_DOMAIN;
declare variable FB SUMM_DOMAIN;
declare variable FC SUMM_DOMAIN;
declare variable FD SUMM_DOMAIN;
begin
    fa=0; fb=0; fc=0; fd=0; ff=0;
    select first 1 fa,fb,fc,fd
        from AFFILIATION a where a.keys=:KEYS and a.name=:NAME

```

```
    into :fa, :fb, :fc, :fd;
if (x<fa) then
  begin
    ff=0;
  end else
if ((x>=fa)and(x<fb)) then
  begin
    ff=0;
    if ((fb-fa)<>0) then ff=(x-fa)/(fb-fa);
  end else
if ((x>=fb)and(x<=fc)) then
  begin
    ff=1;
  end else
if ((x>fc)and(x<=fd)) then
  begin
    if ((fd-fc)<>0) then ff=(fd-x)/(fd-fc);
  end else
if (x>fd) then
  begin
    ff=0;
  end
return ff;
end
^

SET TERM ; ^
```

ДОДАТОК Б

Метадані таблиць

```
INSERT INTO FLAT (ID, ADRES, ROOM, SQ, BALKON, COST)
      VALUES (1, 'Lebeda, 54', 1, 31, 0, 1300);
INSERT INTO FLAT (ID, ADRES, ROOM, SQ, BALKON, COST)
      VALUES (2, 'Markovsky, 57', 1, 24, 0, 950);
INSERT INTO FLAT (ID, ADRES, ROOM, SQ, BALKON, COST)
      VALUES (3, 'Belinsky, 3', 1, 28, 0, 1380);
INSERT INTO FLAT (ID, ADRES, ROOM, SQ, BALKON, COST)
      VALUES (4, 'Gorky, 38', 1, 28, 0, 1350);
INSERT INTO FLAT (ID, ADRES, ROOM, SQ, BALKON, COST)
      VALUES (5, 'Gorky, 14', 1, 32, 1, 1550);
INSERT INTO FLAT (ID, ADRES, ROOM, SQ, BALKON, COST)
      VALUES (6, 'Kopylova, 42', 1, 34, 1, 1520);
INSERT INTO FLAT (ID, ADRES, ROOM, SQ, BALKON, COST)
      VALUES (7, 'Ketskhoveli, 57', 1, 32, 1, 1450);
INSERT INTO FLAT (ID, ADRES, ROOM, SQ, BALKON, COST)
      VALUES (8, 'Red Army, 10', 1, 42, 1, 1750);
INSERT INTO FLAT (ID, ADRES, ROOM, SQ, BALKON, COST)
      VALUES (9, 'Kopylova, 78', 1, 30, 1, 1630);
INSERT INTO FLAT (ID, ADRES, ROOM, SQ, BALKON, COST)
      VALUES (10, 'Totmina, 5', 1, 34, 1, 1300);
INSERT INTO FLAT (ID, ADRES, ROOM, SQ, BALKON, COST)
      VALUES (11, 'Kravchenko, 8', 1, 42, 0, 1480);

COMMIT WORK;

INSERT INTO AFFILIATION (ID, KEYS, NAME, FA, FB, FC, FD)
      VALUES (1, 'Cost', 'дешева', 800, 800, 950,
1150);
INSERT INTO AFFILIATION (ID, KEYS, NAME, FA, FB, FC, FD)
```

```
VALUES (2, 'Cost', 'средня', 900, 1150,  
1300, 1500);  
INSERT INTO AFFILIATION (ID, KEYS, NAME, FA, FB, FC, FD)  
VALUES (3, 'Cost', 'дорога', 1350, 1550,  
1800, 1800);  
INSERT INTO AFFILIATION (ID, KEYS, NAME, FA, FB, FC, FD)  
VALUES (4, 'sq', 'маленька', 20, 20, 24, 32);  
INSERT INTO AFFILIATION (ID, KEYS, NAME, FA, FB, FC, FD)  
VALUES (5, 'sq', 'средня', 26, 33, 38, 43);  
INSERT INTO AFFILIATION (ID, KEYS, NAME, FA, FB, FC, FD)  
VALUES (6, 'sq', 'велика', 37, 42, 50, 50);  
  
COMMIT WORK;
```

