Project 3_1 (26 points)

It is possible that the instances of your tables are different from the ones presented below as an example. What is mandatory is the table schema: attributes' list and names. Your tables must have the same names in the header of the tables as presented below for each query. Use **`Cast()`** function to display a tuple in row with 80 characters.
One instance of MUSEUM database follows:

SELECT * FROM ARTIST2016

A_ID	ANAME	ABIRTH	ADEATH	ACOUNTRY	AEPOCH	ASTYLE
MK_A1	MK_Artist1	12/02/1657	12/12/1702	Holland	Ancient	Academic
MK_A2	MK_Artist2	12/12/1980	-	Canada	Modern	Modern
MK_A3	MK_Artist3	01/12/1978	-	Canada	Modern	Modern
unknown	unknown	-	-	-	-	-

select * from ARTOBJ2016

ARTID	A_ID	ARTYEAR	ARTTITLE	ARTEPOCH	ARTDESCR	ARTSTYLE
MK01	MK_A1	1700	The lake with sun	Ancient	The colors are shades of blue and green	style1
MK02	MK_A1	1710	Under the trees	Ancient	Description for MK02	style1
MK04	MK_A2	2000	Flying	Modern	Description for MK04	style2
MK05	MK_A2	2007	Sun	Modern	Description for MK05	style3
MK06	MK_A2	2008	Flower	Modern	Description for MK06	style3
MK07	unknown	1600	Saint James	Renaissance	Description for MK07	style2
MK08	MK_A3	2000	Animals	Modern	Description for MK08	style4
MK09	MK_A3	2002	CN Tower	Modern	Description for MK09	style4
MK03	MK_A2	2000	position	Modern	Description for MK03	style2

SELECT * FROM painting2016

ARTID	PTYPE	PMAT
MK01	oil	canvas
MK02	oil	wood
MK07	oil	wood

SELECT * FROM OTHERS2016

ARTID	OTYPE
MK05	photo
MK06	video

SELECT * FROM EXPOSED2016

E_ID	ARTID	STARTDATE	ENDDATE
MK_E01	MK01	02/05/2009	03/04/2009
MK_E02	MK02	11/24/2007	12/24/2007
MK_E02	MK03	02/02/2008	04/25/2008
MK_E02	MK04	02/02/2008	04/25/2008
MK_E02	MK05	02/02/2008	04/25/2008
MK_E02	MK07	12/02/2007	02/02/2008
MK_E03	MK06	01/01/2009	02/28/2009
MK_E03	MK06	03/30/2009	04/30/2009

SELECT * FROM Sculpture2016

ARTID	SMAT	SHEIGHT	SWEIGHT
MK03	stone	+2.30000E+000	+2.34500E+002
MK04	wood	+1.20000E+001	+5.55000E+001
MK08	steel	+5.00000E-001	+2.50000E+000

SELECT * FROM Permanent2016

ARTID	ARTDATE	ARTCOST	ARTSTATE
MK03	12/12/1978	+2.30000E+004	DISPLAY
MK02	12/30/1980	+5.50000E+006	DISPLAY
MK04	12/23/2000	+2.00000E+005	DISPLAY
MK05	12/23/2007	+2.00000E+005	STORED
MK06	12/12/2007	+2.00000E+007	STORED

SELECT * FROM Borrowed2016

ARTID	COL_ID	DATEBORW	DATERETURN
MK01	MK_C1	12/23/2004	12/02/2005
MK01	MK_C1	12/23/2005	11/02/2006
MK08	MK_C3	12/30/2006	12/30/2008
MK09	MK_C3	12/30/2006	12/30/2008
MK01	MK_C1	02/05/2009	03/04/2009
MK07	MK_C2	02/02/2005	02/03/2006
MK07	MK_C2	12/02/2007	12/12/2008

select * from exibition2016

E_ID	EXIBNAME	EXIBPLACE	EXIBSTART	EXIBEND
MK_E01	Exibition1	Hamilton	01/23/2009	05/04/2009
MK_E02	Exibition2	TORONTO	11/24/2007	05/05/2008
MK_E03	Exibition3	Toronto	01/01/2009	05/30/2009

select * from collection2016

COL_ID	COLNAME	COLTYPE	COLDESCR	COLADR	COLPHONE	COLCONTACT
MK_C1	Colection1	Private	-	-	4162341234	Anissa Maw
MK_C2	Colection2	Museum	-	-	4161234567	Hector Berlioz
MK_C3	Colection3	Museum	-	-	4162341444	Your name

Use SQL language to obtain the tables (answers) for the following questions:

1. List all art objects exposed in any exposition

Attributes list: exhibition name, art object id, the start date of the exposure, the end date of the exposure, start date of the exhibition, end date of the exhibition, artist name; order by exhibition name and artist name . A correct answer table is presented in Figure 1.

EXIB_NAME	ARTID	STARTDATE	ENDDATE	EXIBSTART	EXIBEND	ARTIST
Exibition1	MK01	02/05/2009	03/04/2009	01/23/2009	05/04/2009	MK_Artist1
Exibition2	MK02	11/24/2007	12/24/2007	11/24/2007	05/05/2008	MK_Artist1
Exibition2	MK03	02/02/2008	04/25/2008	11/24/2007	05/05/2008	MK_Artist2
Exibition2	MK04	02/02/2008	04/25/2008	11/24/2007	05/05/2008	MK_Artist2
Exibition2	MK05	02/02/2008	04/25/2008	11/24/2007	05/05/2008	MK_Artist2
Exibition2	MK07	12/02/2007	02/02/2008	11/24/2007	05/05/2008	unknown
Exibition3	MK06	01/01/2009	02/28/2009	01/01/2009	05/30/2009	MK_Artist2
Exibition3	MK06	03/30/2009	04/30/2009	01/01/2009	05/30/2009	MK_Artist2

Figure 1

2. **List the most expensive art object which belongs to the museum.**

The attributes list (table's schema) is presented in Figure 2. A correct answer table is presented in Figure 2.

ARTID	ARTIST	ARTEPOCH	ARTSTATE	PRICE	ARTDATE
MK06	MK_Artist2	Modern	STORED	+2.00000E+007	12/12/2007

Figure 2

3. **List the art objects borrowed from other collections.**

The attributes list is presented in Figure 3. A correct answer table is presented in Figure 3. TIMES represent how many times each art object was borrowed, COLNAME is collection name.

ARTID	COLNAME	TIMES
MK01	Colection1	3
MK07	Colection2	2
MK08	Colection3	1
MK09	Colection3	1

Figure 3

4. **List all distinct paintings and sculptures borrowed from other collections ordered by the year when they were done (ARTYEAR); ARTIST is artist name.**

The attributes list is presented in Figure 4. A correct answer table is presented in Figure 4.

ARTID	ARTIST	ARTYEAR	ARTTITLE
MK07	unknown	1600	Saint James
MK01	MK_Artist1	1700	The lake with sun
MK08	MK_Artist3	2000	Animals

Figure 4

5. **List how many paintings, how many sculptures, and how many "others" artobjects owns the museum (permanent).**

The attributes list is presented in Figure 5. A correct answer table is presented in Figure 5.

NBR	ARTTYPE
2	others
1	paintings
2	sculptures

Figure 5

6. **List all artobjects owned by the museum (permanent).**
   The attributes list is presented in Figure 6. An example of answer table is presented in Figure 6.

```
ARTID ARTDATE    ARTCOST                  ARTSTATE ARTTYPE
----- ---------- ------------------------ -------- ---------
MK03  12/12/1978           +2.30000E+004 DISPLAY  sculpture
MK04  12/23/2000           +2.00000E+005 DISPLAY  sculpture
MK05  12/23/2007           +2.00000E+005 STORED   other
MK02  12/30/1980           +5.50000E+006 DISPLAY  painting
MK06  12/12/2007           +2.00000E+007 STORED   other
```

Figure 6

7. **List for each artist the total value of artobjects owned by the museum.**
   The attributes list is presented in Figure 7. An example of answer table is presented in Figure 7.

```
Total value              Artist name
------------------------ -------------------------
  +5.50000000000000E+006 MK_Artist1
  +2.04230000000000E+007 MK_Artist2
```

Figure 7

8. **List all artobjects owned by the museum (permanent).**
   The attributes list is presented in Figure 8. An example of answer table is presented in Figure 8.

```
ARTID ARTCOST                  A_ID    ANAME
----- ------------------------ ------- -------------------------
MK02             +5.50000E+006 MK_A1   MK_Artist1
MK04             +2.00000E+005 MK_A2   MK_Artist2
MK05             +2.00000E+005 MK_A2   MK_Artist2
MK06             +2.00000E+007 MK_A2   MK_Artist2
MK03             +2.30000E+004 MK_A2   MK_Artist2
```

Figure 8

You have to upload the file project_3_1.txt which is a copy of all your queries and their result in folder P3_1.

It is mandatory to start your file project_3_1.txt file with a select from all tables in your MUSEUM database (the corrector needs to have an image of your tables).

Use the same tables' schemas as in the examples in pages 1 and 2 of the project 3_1.

```
update command options using v ON
update command options using z on project_3_1.txt
```