Homework2

Suppose we have 3 tables which are Users, Videos and Ratings.
Each user has a userID (primary key) and name.
Each video has a videoID(primary key), uploader (UserID --- Foreign key), length(seconds),and title.
Each vedio (UserID + VideoID) is given a rating from 1 to 5.

userID	name
U1	Jack
U2	Jill
U3	John
U4	Jane
U5	Job
U6	Jay

Table 1: `Users`

videoID	title	length	userID
V1	Michelle Obama dunks on LeBron	18	U3
V2	Michael Sherman yells at Erin Andrews	46	U3
V3	Jack Gleeson on being famous	1707	U2
V4	The Wolf of Wall Street	10780	U2
V5	Transcendence Official Trailer	152	U2

Table 2: `Videos`

userID	videoID	rating
U3	V1	5
U3	V2	5
U3	V4	5
U2	V4	4
U1	V4	1
U6	V4	1
U5	V4	2
U4	V5	3

Table 3: `Ratings`

1. For the following math expression $\sigma_{length<20}$(Videos)
   How many, and which, are the columns of the answer? (1point)
   How many tuples are in the results? (2 points)
   Give, as a table, all of the tuples returned by the query. (3 points)

2. For the following math expression: $\sigma_{rating>4}$(Videos ⋈ Ratings)
   How many, and which, are the columns of the answer? (1point)
   How many tuples are in the results? (2 points)
   Give, as a table, all of the tuples returned by the query. (3 points)

3. write math expression for the following query (3 points)
   Query: selects the uploader of all videos under 20 seconds