CASE Statements and Aggregate Functions Homework

Using the Chinook database and SQL Server Management Studio (SSMS), write SQL queries for the following questions. Submit your answers in a single SQL file to the Blackboard site. Use SQL's commenting syntax to include your name at the top of the file. Also include the question number as a comment before each answer. The answer key to the questions will be released after the deadline to submit homework has passed.

1. **Display all tracks from the Track table and their associated media type name from the MediaType table. (3503 rows)**
   Create two derived columns called MediaType and EncodingFormat.
   Call the Track.Name column TrackName and the MediaType.Name column MediaName.
   The result set will have 4 columns: TrackName, MediaName, MediaType and EncodingFormat
   For MediaType if the media is a video then display "Video" otherwise display "Audio".
   For EncodingFormat if the media name contains AAC then display "AAC", if it contains MPEG then display "MPEG" otherwise display "Unknown".

2. **Display the total track count for each Media type. (5 rows)**
   The result set will have 2 columns: MediaTypeName, TotalTracks.
   Hint: The TotalTracks for an MPEG audio file should equal 3034.

3. **Sum the total sales for each Sales Support Agent grouped by year. (15 rows)**
   The result set should have 4 columns: FirstName, LastName, SaleYear, TotalSales.
   Use Invoice.Total for TotalSales and Invoice.InvoiceDate for SaleYear.
   Hint: You should return 15 rows. The TotalSales for Steve Johnson in 2009 should equal 164.34.

4. **Display the highest amount paid by each customer for a single invoice. (59 rows)**
   The result set should have 3 columns: LastName, FirstName and MaxInvoice.
   MaxInvoice should be derived from the Invoice.Total column.
   Hint: Fynn Zimmermann's MaxInvoice should be 14.91.

5. **Check customer postal codes to determine if they are numeric. (59 rows)**
   The result set should have 3 columns: Country, PostalCode and NumericPostalCode.
   NumericPostalCode is a derived column.
   If the PostalCode column has a numeric value then return "Yes".
   If it does not have a numeric value then return "No".
   If the PostalCode column has a NULL value then return "Unknown".
   Order the results by NumericPostalCode and Country.

6. **Find the customers whose total purchases are greater than 42 dollars. (10 rows)**
   The result set should have 3 columns: FirstName, LastName, TotalSales.
   TotalSales is derived from the Invoice table.

7. **Which artist has the most tracks in the database? (1 row)**
   The result set should contain 1 column named TopArtist, and 1 row with the name of the artist.
   (Note: Don't hard code the answer. I need to see the query logic.)

8. **Assign customers to groups using a derived column named CustomerGrouping. (59 rows)**
   The result set will have 3 columns: FirsName, LastName and CustomerGrouping.
   Customers with a last name starting with A-G will be assigned to Group1.
   Customers with a last name starting with H-M will be assigned to Group2.
   Customers with a last name starting with N-S will be assigned to Group3.
   Customers with a last name starting with T-Z will be assigned to Group4.
   If there is no last name then the CustomerGrouping column should return NULL.

9. **List all the artists and a count of how many albums each artist has in the database. (275 rows)**
   The result set will have 2 columns: ArtistName and AlbumCount.
   Order the results by AlbumCount and ArtistName.

10. **Place employees in departments based on their title. (8 rows)**
    The result set will have 4 columns: FirstName, LastName, Title and Department.
    Department is derived column with the following criteria:
    If an employee's title contains "Sales" then their department is "Sales".
    If an employee's title contains "IT" then their department is "Technology".
    If an employee's title contains "Manager" then their department is "Management".
    The Management department will override Sales and Technology for employee placement.
    Order your results by Department.