

Final Report

Background: For our final project, we elected to pursue option B: Youtube Data Analysis as a Content Creator. Specifically, we wanted to create a set of tools that could inform an aspiring content creator on Youtube about what markets might be the best to pursue to be the most successful. The data that our project is based on comes from the provided Global Youtube Statistics data set which we chose because it contains information about the popularity of youtube channels around the world as well as information relating to each of the countries.

Table Structure and Relationships: We have 4 tables consisting of Country, Creator, Content, and Subscribers. Below will explain the structure of the tables including the Column Names, their data types and a description of the column.

Country Table:

Data Element	Data Type	Description
Country	Varchar2(20)	Primary Key
Population	Number	
Gross_Tertiary_Education_Enrollment	Decimal(4, 1)	This means that the value can be 4 digits long and it will be rounded to the nearest tenth
Unemployment_Rate	Decimal(4, 2)	This means that the value can be 4 digits long and it will be rounded to the nearest hundredth
Urban_Population	Number	

Creator Table:

Data Element	Data Type	Description
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Youtuber	Varchar2(50)	Primary Key
Rank	Number	
Category	Varchar2(40)	
Country	Varchar2(20)	Foreign Key to Country Table
Country_Rank	Number	
Lowest_Monthly_Earnings	Decimal(10, 2)	10 digits long rounded to the nearest hundredth
Highest_Monthly_Earnings	Decimal(10, 2)	10 digits long rounded to the nearest hundredth

Subscribers Table:

Data Element	Data Type	Description
Youtuber	Varchar2(50)	Primary Foreign Key to Creator Table
Subscriber_Amount	Number	

Content Table:

Data Element	Data Type	Description
Youtuber	Varchar2(50)	Primary Foreign Key to Creator Table
Uploads	Number	
Videos_Views_Rank	Number	
Channel_Type	Varchar2(40)	

Created_Year	Number	
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Questions:

Question 1: Which countries have the highest population, and which have the highest urban population?

Insights: Identifying the country with the highest population could help the prospective youtuber identify the largest potential market for their content.


Question 1 Code:

```

create or replace procedure highestPops as
    cursor countries is select * from country order by population desc;
    cur_country country%rowtype;
    v_countryname varchar2(30);
    v_population number;
    v_urban_pop number;
begin
    open countries;
    for i in 1..10 loop
        fetch countries into cur_country;
        v_population := cur_country.population;
        v_urban_pop := cur_country.urban_population;
        v_countryname := cur_country.country;
        dbms_output.put_line(v_countryname || ' has a population of: ' || v_population || ' and an urban population of ' || v_urban_pop);
    end loop;
    close countries;
end;
exec highestPops();

```

Question 1 Answer:

Dbms Output	
 Buffer Size: 20000	
CNIT372 x	
China has a population of: 1397715000 and an urban population of 842933962	
India has a population of: 1366417754 and an urban population of 471031528	
United States has a population of: 328239523 and an urban population of 270663028	
Indonesia has a population of: 270203917 and an urban population of 151509724	
Pakistan has a population of: 216565318 and an urban population of 79927762	
Brazil has a population of: 212559417 and an urban population of 183241641	
Bangladesh has a population of: 167310838 and an urban population of 60987417	
Russia has a population of: 144373535 and an urban population of 107683889	
Japan has a population of: 126226568 and an urban population of 126226568	
Mexico has a population of: 126014024 and an urban population of 102626859	

Question 2: What Youtuber is number 1 in the inputted Country based off of subscribers?

Insights: Finding a youtuber with proven success in gaining subscribers could provide inspiration to an aspiring youtuber

Question 2 Code:

```

create or replace procedure topincountry(p_country varchar2) as
v_topyoutuber varchar2(50);
begin
select c.youtuber into v_topyoutuber
from creator c inner join subscribers s on c.youtuber = s.youtuber
where country = p_country
order by subscriberamount desc fetch first 1 rows only;
dbms_output.put_line('The youtuber with the most subscribers in ' || p_country || ' is ' || v_topyoutuber);
end;

execute topincountry('United States');

```

Question 2 Answer: The answer shown is a result of providing ‘United States’ as input, but the user can input any country

Dbms Output

+
Buffer Size: 20000

CNIT372 x

The youtuber with the most subscribers in United States is YouTube Movies

Question 3: Which youtuber has the highest monthly earnings?

Insights: Identifying the youtuber with the highest monthly earnings could also provide inspiration to what a successful channel is

Question 3 Code:

```

7 create or replace procedure monthly_earnings
8 as
9     v_max_monthly_earnings creator.highest_monthly_earnings%type;
10    v_youtuber creator.youtuber%type;
11
12 begin
13
14     select youtuber, max(highest_monthly_earnings)
15         into v_youtuber, v_max_monthly_earnings
16     from creator
17     group by youtuber
18     order by max(highest_monthly_earnings) desc
19     fetch first 1 rows only;
20
21     dbms_output.put_line('The Youtuber with the Highest Monthly Earnings is ' || v_youtuber || ' with the monthly earnings of ' || v_max_monthly_earnings);
22 end;
23
24 exec monthly_earnings();

```

Question 3 Answer:

Dbms Output

+
Buffer Size: 20000

CNIT372 x

The Youtuber with the Highest Monthly Earnings is KIMPRO with the monthly earnings of 13600000

Question 4: What Youtuber has the top video views rank having been created in a given year?

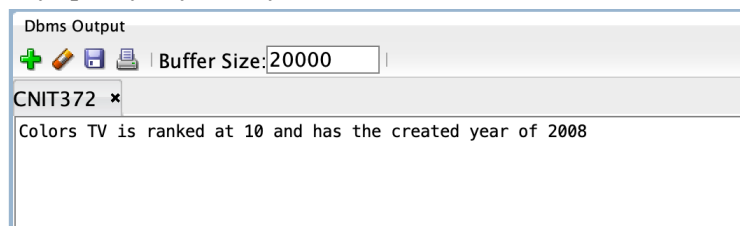
Insights: Finding older Youtubers that have success could offer inspiration for how to maintain longevity of a channel while finding successful newer youtubers could provide insights into newer trends

Question 4 Code:

```
create or replace procedure video_views
(p_year in number)
as
    v_video_views_rank content.video_views_rank%type;
    v_youtuber content.youtuber%type;
begin
    select youtuber, max(video_views_rank)
    into v_youtuber, v_video_views_rank
    from content
    where created_year = p_year
    group by youtuber
    order by max(video_views_rank)
    fetch first 1 rows only;

    dbms_output.put_line(v_youtuber || ' is ranked at ' || v_video_views_rank || ' and has the created year of ' || p_year);
end;
exec video_views(2008);
```

Question 4 Answer: The answer shown is a result of providing the year of '2008' as input, but the user may specify any valid year




Question 5: What is some of the key information about the top youtubers provided by the previous questions?

Insights: Provides detailed information about successful channels identified in the previous question

Question 5 Code:

```
-- Question 3
create or replace procedure creatorinfo(p_creator varchar2) as
    v_rank number;
    v_cat varchar2(50);
    v_country varchar2(50);
    v_countryrank number;
    v_highestmonthlyearnings number(10,2);
begin
    select rank, category, country, country_rank, highest_monthly_earnings
    into v_rank, v_cat, v_country, v_countryrank, v_highestmonthlyearnings
    from creator where youtuber = p_creator;
    dbms_output.put_line('Youtuber: ' || p_creator || ' Rank: '
    || v_rank || ' Category: ' || v_cat || ' Country: ' || v_country || ' Country Rank: '
    || v_countryrank || ' Top Monthly Earnings ' || v_highestmonthlyearnings);
end;
execute creatorinfo('MrBeast');
```

Question 5 Answer: The answer shown is a result of providing the youtuber 'MrBeast' as input, but the user may specify any youtuber

Dbms Output				
 Buffer Size: 20000				
CNIT372 x				
Youtuber: MrBeast Rank: 3 Category: Entertainment Country: United States Country Rank: 1 Top Monthly Earnings 5400000				

Question 6: What youtubers have the most uploads and what is their rank?

Insights: This Query will help the aspiring youtuber to help determine if the amount of uploads corresponds to more success in terms of rank

Question 6 Code:

```
create or replace procedure uploads_rank as

    cursor upload_rank is
        select * from content
        order by uploads desc;


    cur_rank content%rowtype;
    v_youtuber varchar2(30);
    v_uploads number;
    v_rank number;

begin

    open upload_rank;
    for i in 1 .. 10 loop
        fetch upload_rank into cur_rank;
        v_youtuber := cur_rank.youtuber;
        v_uploads := cur_rank.uploads;
        v_rank := cur_rank.video_views_rank;
        dbms_output.put_line(v_youtuber || ' has ' || v_uploads || ' uploads and is ranked number ' || v_rank);
    end loop;
    close upload_rank;
end;

exec uploads_rank();
```

Question 6 Answer: List the youtubers with the most uploads as well as their rank, with none of the channels with the most uploads are within the top fifty, demonstrating that quantity of uploads does not necessarily result in success

Dbms Output	
 Buffer Size: 20000	
CNIT372 x	
ABP NEWS has 301308 uploads and is ranked number 280	
GMA Integrated News has 296272 uploads and is ranked number 486	
TV9 Bharatvarsh has 293516 uploads and is ranked number 414	
Aaj Tak has 283775 uploads and is ranked number 71	
IndiaTV has 273255 uploads and is ranked number 185	
KOMPASTV has 269050 uploads and is ranked number 331	
Thairath Online has 244899 uploads and is ranked number 238	
News 24 has 211620 uploads and is ranked number 880	
ABS-CBN News has 209520 uploads and is ranked number 404	
TEDx Talks has 200933 uploads and is ranked number 768	

Question 7: What is the Subscriber to Uploads Ratio for a given Creator?

Insights: Can help aspiring youtuber to determine their subscribers per upload based on a calculation of dividing subscriber amount by uploads

Question 7 Code:

```
create or replace procedure upload_subs_ratio
(p_youtuber in varchar2)
as
    cursor uploads_subs is
        select c.uploads, s.subscriberamount
        from content c inner join subscribers s
        on c.youtuber = s.youtuber
        where c.youtuber = p_youtuber;

    v_uploads number;
    v_subs number;

begin
    open uploads_subs;

    fetch uploads_subs into v_uploads, v_subs;

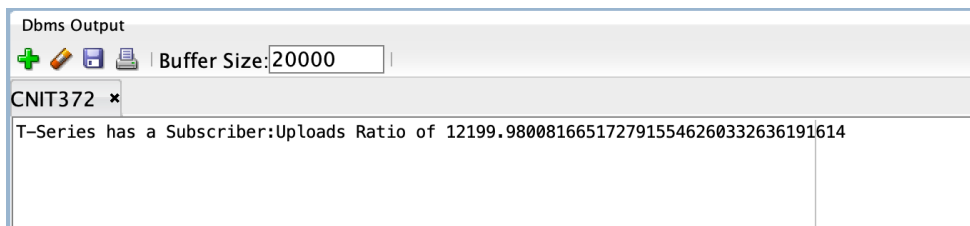
    dbms_output.put_line(p_youtuber || ' has a Subscriber:Uploads Ratio of ' || v_subs / v_uploads);

    close uploads_subs;

end;

exec upload_subs_ratio('T-Series');
```

Question 7 Answer: List the Youtuber, inputted by the user, and find the subscriber to uploads ratio for that youtuber.




Question 8: What country has the lowest population of those with tertiary education enrollment?

Insights: An aspiring youtuber can use all of the information cross reference with itself to determine where the best place to offer free education videos to less educated countries

Question 8 Code:

```
162 create or replace procedure lowestteredu as
163
164     cursor all_countries is
165         select country, population * gross_tertiary_education_enrollment as num_tertiary
166         from country
167         where population != 0 OR gross_tertiary_education_enrollment != 0
168         order by population * gross_tertiary_education_enrollment asc;
169
170     cur_country all_countries%rowtype;
171     v_cur_num_tertiary number;
172     v_cur_countryname varchar2(20);
173
174 begin
175     open all_countries;
176
177     for i in 1 .. 10 loop
178         fetch all_countries into cur_country;
179         v_cur_countryname := cur_country.country;
180         v_cur_num_tertiary := cur_country.num_tertiary;
181         dbms_output.put_line(v_cur_countryname || ' has a population who have a tertiary education of ' || v_cur_num_tertiary);
182     end loop;
183     close all_countries;
184 end;
185
186 exec lowestteredu();
187
```

Question 8 Answer: List the 10 countries with the lowest population of people who seeked education after high school

Dbms Output	
 Buffer Size: 20000	
CNIT372 x	
Samoa has a population who have a tertiary education of 1539045.6 Barbados has a population who have a tertiary education of 18771435 El Salvador has a population who have a tertiary education of 189734458.2 Kuwait has a population who have a tertiary education of 228865315.2 Jordan has a population who have a tertiary education of 347498273.6 United Arab Emirates has a population who have a tertiary education of 359555467.2 Afghanistan has a population who have a tertiary education of 369005013.8 Cuba has a population who have a tertiary education of 469206196.2 Latvia has a population who have a tertiary education of 469206196.2 Singapore has a population who have a tertiary education of 483662651.2	

Question 9: What channel type attracts the most subscribers?

Insights: It will help youtubers identify what category of videos are most likely to gain more subscribers based on the data in the tables. This question will use a inner join function to grab data from both the creator and subscribers tables.

Question 9 Code:

```
create or replace procedure popcat as


    cursor all_cats is
        select c.category, sum(s.subscriberamount) as subamount
        from creator c inner join subscribers s
        on c.youtuber = s.youtuber
        where c.category is not null
        group by category
        order by sum(s.subscriberamount) desc;

    cur_cat all_cats%rowtype;
    v_catname varchar2(40);
    v_catsubcount number;

begin
    open all_cats;
    for i in 1 .. 10 loop
        fetch all_cats into cur_cat;
        v_catname := cur_cat.category;
        v_catsubcount := cur_cat.subamount;
        dbms_output.put_line(v_catname || ': has ' || v_catsubcount || ' total subscribers');
    end loop;
    close all_cats;
end;

exec popcat();
```

Question 9 Answer: List the top 10 categories with the most subscribers in that category.

Dbms Output	
 Buffer Size: 20000	
CNIT372 x	
Music: has 3751900000 total subscribers Entertainment: has 3149600000 total subscribers People & Blogs: has 1601700000 total subscribers Film & Animation: has 1094100000 total subscribers Gaming: has 1027200000 total subscribers Education: has 873400000 total subscribers Comedy: has 833300000 total subscribers Shows: has 480900000 total subscribers Howto & Style: has 384900000 total subscribers News & Politics: has 272300000 total subscribers	

Question 10: What countries have the highest unemployed population?

Insights: It will help aspiring youtubers help those who are unemployed to potentially make content on ways to make money.

Question 10 Code:

```
create or replace procedure highestunemployed as

    cursor all_countries is
        select country, population * unemployment_rate as num_unem
        from country
        order by population * unemployment_rate desc;


    cur_country all_countries%rowtype;
    v_cur_num_unem number;
    v_cur_countryname varchar2(20);

begin
    open all_countries;

    for i in 1 .. 10 loop
        fetch all_countries into cur_country;
        v_cur_countryname := cur_country.country;
        v_cur_num_unem := cur_country.num_unem;
        dbms_output.put_line(v_cur_countryname || ' has an unemployed population of ' || v_cur_num_unem);
    end loop;
    close all_countries;
end;

exec highestunemployed();
```

Question 10 Answer: List the top 10 countries with the highest unemployment population

Dbms Output	
 Buffer Size: <input type="text" value="20000"/>	
CNIT372 x	
India has an unemployed population of 7323999161.44	
China has an unemployed population of 6038128800	
United States has an unemployed population of 4825120988.1	
Brazil has an unemployed population of 2567717757.36	
Indonesia has an unemployed population of 1267256370.73	
Turkey has an unemployed population of 1125465506.35	
Egypt has an unemployed population of 1080175665.48	
Pakistan has an unemployed population of 963715665.1	
Bangladesh has an unemployed population of 701032411.22	
Russia has an unemployed population of 662674525.65	

Teamwork:

Our team consisted of two members, J.P. McKenney and Owen Pifer. We divided each of the milestones, the final presentation, and the final report into equal workloads for each member across each category of work. This meant that both members contributed equally to the creation of questions, handling the importing of data, writing the sql code for the answers of each of the questions, creating the presentation, and creating the final report.