**Adventure Works**

*Task 1:*

1. Clean up data
2. Analyze data and get insights in the given context
   1. Include statistical parameters such as mean, median, standard deviation
   2. Do a basic hypothesis test if you know
   3. Use the visualization

*Task 2:*

1. Build a relational schema for the tables, include normalization if needed
2. Load the data into the database
3. Answer the following questions:
   1. Top 5 customers details who made the highest purchases
   2. The one product made the highest profit and how much
   3. Year wise sales numbers( number of products and total sales year wise)
   4. Region wise sales figures
   5. List the products that have a Spanish name and how much profits did they make overall

*Task 3:*

1. Build a flask application with following objectives
   1. Search for customers using name, id or phone number
   2. Display their details

*Task 4:*

1. Create a Power BI dashboard and tell a story
2. Suggest business improvements

*Task 5:*

1. Migrate the project to AWS, choosing appropriate services

**HR Data**

*Task 1:*

1. Clean up data
2. Analyze data and get insights in the given context
   1. Include statistical parameters such as mean, median, standard deviation
   2. Do a basic hypothesis test if you know
   3. Use the visualization

*Task 2:*

1. Build a relational schema for the tables, include normalization if needed
2. Load the data into the database
3. Answer the following questions:
   1. Generate Info those candidates who have accepted offer and joining time is less than 30 days and candidates who are ready to re-locate.
   2. Generate Info those candidates who have accepted offer and also display list the candidates who have been offered and yet to accept the offer within 10 days;
   3. Generate Info those candidates who are willing to join and the ECTC is 25% hike from their CTC.
   4. Generate Info those candidates who are willing to join and the ECTC is 25% hike from their CTC joining time is less than 30 days and candidates who are ready to re-locate and joining bonus is offered.
   5. Generate the count of the candidates who are hired through what source and also who have joined and declined the offer.

*Task 3:*

1. Build a flask application with following objectives
   1. Using the python Faker module (<https://pypi.org/project/Faker/>) create fake names for all candidates
   2. Develop an application to search and display student details based on Student ID

*Task 4:*

1. Create a Power BI dashboard and tell a story
2. Suggest business improvements

*Task 5:*

1. Migrate the project to AWS, choosing appropriate services

**Loan Data**

Task 1:

1. Clean up data
2. Analyze data and get insights in the given context
   1. Include statistical parameters such as mean, median, standard deviation
   2. Do a basic hypothesis test if you know
   3. Use the visualization

Task 2:

1. Build a relational schema for the tables, include normalization if needed
2. Load the data into the database
3. Answer the following questions: Generate reports for
   1. the customer who has approached for the loan and all kyc is submitted and disbursal date is not given, or loan is not disbursed.
   2. the customer who has approached for the loan whose Bureau Score is less than 650 and min. enquires made is >3 and the cost of asset is between 50000 to 70000 and ltv is between the range of 50-60.
   3. the customer who has approached for the loan whose Bureau Score is less than 650 and min. enquires made is >3 and the cost of asset is between 50000 to 70000 and ltv is between the range of 50-60.
   4. the self-employed customer who has approached for the loan whose Bureau Score is less than 650 and min. enquires made is >3 and loan default are 0 and if all kyc is submitted and cross checked if any dues to previous loans.
   5. those customers where the loan is disbursed based on the Cibil score ranging between 670 -780 and also who are acquired the loan for more than 1 time and loan default is 1 or 0.

Task 3:

1. Build a flask application with following objectives
   1. Using the python Faker module (<https://pypi.org/project/Faker/>) create fake names if needed
   2. Develop an application to search and display Loan details

Task 4:

1. Create a Power BI dashboard and tell a story
2. Suggest business improvements

Task 5:

1. Migrate the project to AWS, choosing appropriate services

**Marketing Campaign**

Task 1:

1. Clean up data
2. Analyze data and get insights in the given context
   1. Include statistical parameters such as mean, median, standard deviation
   2. Do a basic hypothesis test if you know
   3. Use the visualization

Task 2:

1. Build a relational schema for the tables, include normalization if needed
2. Load the data into the database
3. Answer the following questions:
   1. Generate the list of customer who has credit and has been contacted more than 2 times during the campaign.
   2. Generate the list of customer who has credit and has been contacted more than 2 times during the campaign and outcome of the campaign is successful.
   3. Generate the list of customer who has credit and has been contacted more than 2 times during the campaign and outcome of the campaign is failure and who have been contacted in the month of June and also display the day contacted.
   4. Generate report giving state-wise breakup of number of customers
   5. Generate report giving city-wise distribution of customers

Task 3:

1. Build a flask application with following objectives:
   1. Using the python Faker module (<https://pypi.org/project/Faker/>) create fake names if needed
   2. Develop an application to search and display Customer details

Task 4:

1. Create a Power BI dashboard and tell a story
2. Suggest business improvements

Task 5:

1. Migrate the project to AWS, choosing appropriate services

**Used Cars**

Task 1:

1. Clean up data
2. Analyze data and get insights in the given context
   1. Include statistical parameters such as mean, median, standard deviation
   2. Do a basic hypothesis test if you know
   3. Use the visualization

Task 2:

1. Build a relational schema for the tables, include normalization if needed
2. Load the data into the database
3. Answer the following questions
   1. Generate Info of the cars which is of the type first owner and the year of car purchase is between 2016-2020 and the number of kms driven is less than 80,000
   2. Generate Info of all the cars whose average mileage is around 25 kmpl and year of car purchase is between 2018-2020 which has a minimum seating of 4-5 and fuel type is diesel.
   3. Generate Info of all the cars which are not sold, and seller-type is individual or dealer and also which has been used for less than 60000 kms and year of car purchase is 2014-2020.
   4. Generate Info of all the cars which are manual and automatic whose mileage ranges between 20-25kmpl approximately and also which is within these cities(Washington, New York City,Chicago,Los Angeles)
   5. Generate Info of all the cars which belong to honda category could be either first owner and second owner and also fuel type is petrol and average mileage should be 25kmpl and which are not sold and seating arrangement should be minimum 4.

Task 3:

1. Build a flask application with following objectives

Task 4:

1. Create a Power BI dashboard and tell a story
2. Suggest business improvements

Task 5:

1. Migrate the project to AWS, choosing appropriate services

**General Instructions:**

1. Feel free to use your creativity and improvise the specifications; challenge yourself to make better things
2. Note down the challenges you faced and how you solved them
3. Presentations should be not more than 15 slides and follow the minimalist approach discussed in the class
4. Presentations should be accompanied by short demonstrations, so plan accordingly