Task 1.

```
def calculateResults(df: DataFrame): Dataset[Row] = {
  df.filter(df(SrchAdultsCnt) === 2)
    .groupBy(HotelCountry, HotelMarket, HotelContinent)
    .agg(count("*").alias(Count))
    .orderBy(desc(Count))
}
```

I first filter out the non-couples, then count the number of hotels in each unique hotel group, such that hotel = <Country,Market,Continent > and put this in descending order.

Task 2.

```
def calculateResults(df: DataFrame): Dataset[Row] = {
  df.filter(df(HotelCountry) === df(SrchDestinationId))
    .filter(df(IsBooking) === 1)
    .groupBy(HotelCountry)
    .agg(count("*").alias(Count))
    .orderBy(desc(Count))
}
```

First I filter out the rows such that HotelCountry is not the same as SrchDestinationId in order to leave only the searches about a country that were made from that same exact country, such that the tickets were eventually booked. Then I count the number of searches per every country.

Task 3.

```
def calculateResults(df: DataFrame): Dataset[Row] = {
  df.filter(df(SrchAdultsCnt) > 0)
    .filter(df(SrchChildrenCnt) > 0)
    .filter(df(IsBooking) === 0)
    .groupBy(HotelCountry, HotelMarket, HotelContinent)
    .agg(count("*").alias(Count))
    .orderBy(desc(Count))
}
```

First I filter out the searches where there are 0 children and 0 adults (maybe they exist, who knows) as well as the searches where booking eventually happened. Then I count the number of such hotels, where hotel = <Country,Market,Continent >.