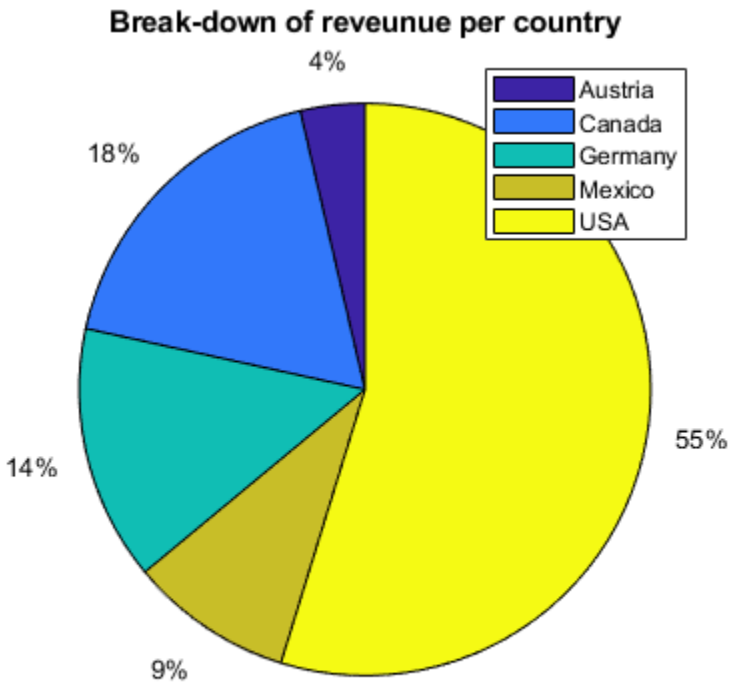
```
%Name: David George
%Student ID: 251004930
%A)
    %t1 - t4 calls a helper function to cast the data to the correct
 type
    %before joinining them
    disp("PART A)...");
    t1 = input_data_country();
    t2 = input_data_orders();
    t3 = input_data_ref();
    t4 = input_data_price();
    %Joining the first two tables
    T1 = outerjoin(t1, t2,'MergeKeys',true);
    %Joining the second two tables
    T2 = join(t3,t4,'Keys','ref_id');
    %final table
    T = innerjoin(T1,T2);



%B)
    disp("PART B..");
    breakDownTable = breakdown(T);
    disp("This is the breakdown of revenue per country");
    disp(breakDownTable);
    figure
    X = [breakDownTable.Austria breakDownTable.Canada
 breakDownTable.Germany breakDownTable.Mexico breakDownTable.USA];
    label = {'Austria', 'Canada', 'Germany', 'Mexico', 'USA'};
    pie(X);
    title("Break-down of reveunue per country");
    legend(label);


 %C)
    disp("PART C..");
    fiveMostandLeast(T);

function t1 = input_data_country()

    data = readtable("db_cust_country.csv");
    data.cust_id = uint32(data.cust_id);
    data.country = string(data.country);
    t1 = data;
end

function t2 = input_data_orders()

    data = readtable("db_cust_orders.csv");
    data.cust_id = uint32(data.cust_id);
    data.order_id = uint64(data.order_id);
    t2 = data;
```

```
end


function t3 = input_data_price()

    data = readtable('db_ref_price.csv');
    data.ref_id = string(data.ref_id);
    data.unit_price = uint32(data.unit_price);
    t3 = data;
end

function t4 = input_data_ref()

    data = readtable('db_order_ref.csv');
    data.order_id= uint64(data.order_id);
    data.ref_id =string(data.ref_id);
    data.qty = uint32(data.qty);
    t4 = data;

end


function T = breakdown(data)

    V = unique(string(data.country));
    disp(V);
    N = length(V);
    Austria= [1];
    Canada = [1];
    Germany = [1];
    Mexico = [1];
    USA = [1];

    %Creating a table with sentinel values, that will filled in later
    Tout =table(Austria, Canada, Germany, Mexico, USA);
           for i = 1:N

             % All rows with specfic country name v(i)
            rows_selected  = data.country ==V(i);

            %temporary table with only the selcted country name
            tmp = data(rows_selected, :);

            %Calcualting the revenue as a per row basis
            tmp.revenue = tmp.qty.*tmp.unit_price;

            %Summing up renvnue for each country, adding to correct
 table
            %spot
            summation = sum(tmp.revenue);
            Tout.(V(i)) = summation;
           end
    T =Tout;
end
```

```
function  fiveMostandLeast(data)
    Sold = [];

    %list of all the unique names
    items = unique(data.ref_id);
    N =1;
    Number = length(items);
    if Number < 0
       disp("Error:");
    end
    while N <= Number
        %Sum up all quantites of items with a given ID
        %Store in appopreiate spot in list
        Sold(N) = sum(data.qty(data.ref_id == items(N)));
        N = N+1;
    end
    %Creating table with each unqiue id and quantity
    Sales = table(items,Sold','VariableNames',
{'ReferenceNumber','Quantity'});

    %Sorting table from greates  to least
    Sorted = sortrows(Sales,2);

    % dispalying the head and tail, the five freatest and smallest
 items
    disp('Five most popular items are:');
    disp(head(Sorted,5));
    disp('Five least popular items are:');
    disp(tail(Sorted,5))
end
```

```
PART A)...
PART B..
    "Austria"
    "Canada"
    "Germany"
    "Mexico"
    "USA"

This is the breakdown of revenue per country
     Austria        Canada       Germany        Mexico          USA
    __________    __________    __________    __________    __________

    5.2365e+05    2.5825e+06    2.0768e+06    1.3286e+06    7.8801e+06

PART C..
Five most popular items are:
    ReferenceNumber    Quantity
    _______________    ________

       "CQ_110"          235
       "JY_300"          302
```

```
    "FW_160"          513
    "JY_180"          647
    "CQ_30"           863

Five least popular items are:
    ReferenceNumber    Quantity
    _______________    ________

    "FW_60"           7979
    "FW_170"          8108
    "FW_70"           8189
    "FW_150"          8297
    "CQ_10"           8327
```



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