
```

% Read the data along with headers
filename = 'Book2.csv';
data = readmatrix(filename, 'Range', 'A2:Z30'); % Read only rows 2 to 31
    (first 30 rows)
headers = readcell(filename, 'Range', 'A1:Z1'); % Assuming headers are in row
    1

% Find column indices by matching header names
caloriesIndex = find(strcmpi(headers, 'Total Calories'));
calBurnedIndex = find(strcmpi(headers, 'Total CAL Burned'));
restingHeartRateIndex = find(strcmpi(headers, 'Resting Heart Rate Average'));
walkingHeartRateIndex = find(strcmpi(headers, 'Walking Heart Rate Average'));

% Extract columns
data1 = data(:, caloriesIndex);
data2 = data(:, calBurnedIndex);
restingHeartRateData = data(:, restingHeartRateIndex);
walkingHeartRateData = data(:, walkingHeartRateIndex);

% Create histograms with specified colors and transparency
figure;
histogram(data1, 'BinWidth', 100, 'FaceColor', [0 0 1], 'FaceAlpha',
    0.9, 'EdgeColor', 'w'); % Blue for 'Cal Intake Per Day'
hold on;
histogram(data2, 'BinWidth', 100, 'FaceColor', [1 0.6 0], 'FaceAlpha',
    0.9, 'EdgeColor', 'w'); % Orange for 'Cal Burned Per Day'
hold off;

% Set plot labels and title
xlabel('Calories', 'FontSize', 14);
ylabel('Frequency', 'FontSize', 14);
title('Calories Intake vs. Burned');

% Add legend
legend('Cal Intake Per Day', 'Cal Burned Per Day', 'Location', 'Best');

fprintf('Mean Calories Daily Intake: %.2f\n', mean(data1));
fprintf('Mean Calories Daily Burned: %.2f\n', mean(data2));

meanRestingHeartRate = mean(restingHeartRateData);
meanWalkingHeartRate = mean(walkingHeartRateData);

fprintf('Mean Resting Heart Rate: %.2f\n', meanRestingHeartRate);
fprintf('Mean Walking Heart Rate: %.2f\n', meanWalkingHeartRate);

protein = mean(data(:, strcmpi(headers, 'Protein')));
carbs = mean(data(:, strcmpi(headers, 'Carbs')));
fats = mean(data(:, strcmpi(headers, 'Fats')));

% Create data and labels for the pie chart
y = [protein, carbs, fats];

```

```

mylabels = {'Protein', 'Carbs', 'Fats'};
myexplode = [0.2, 0, 0]; % Specify how much each slice should be exploded

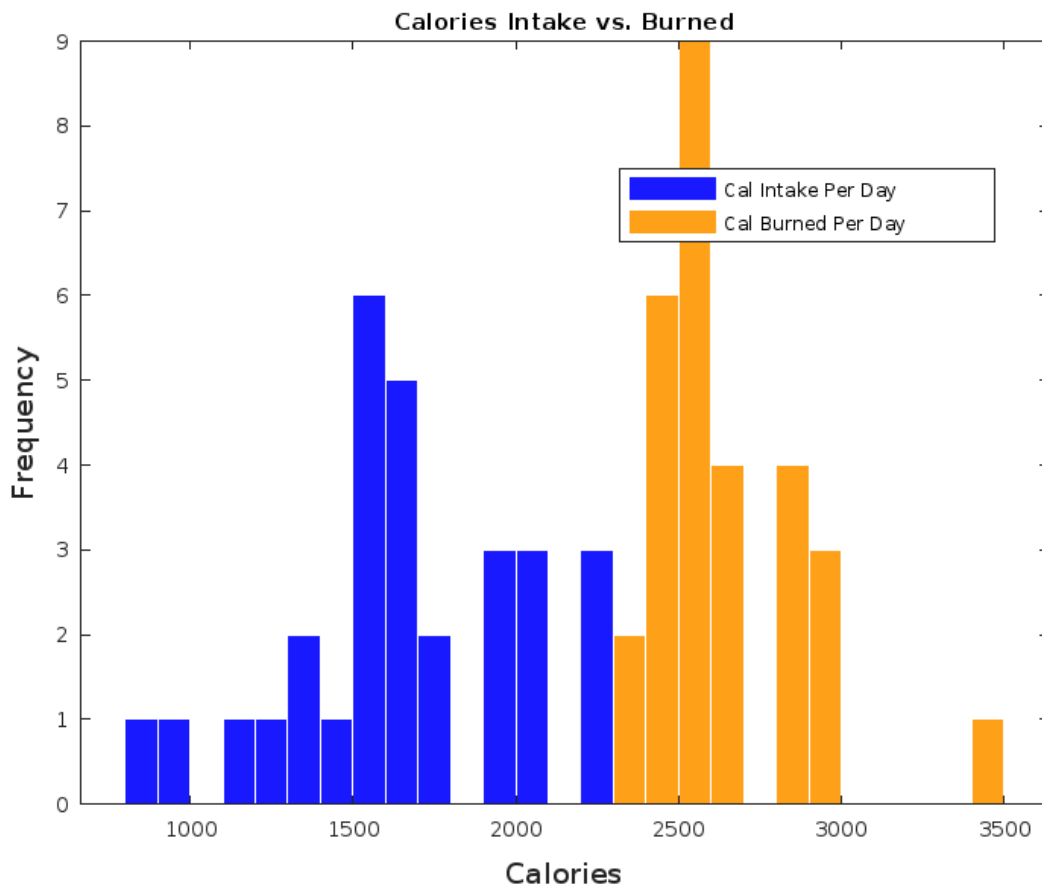
% Create the pie chart
figure;
pie(y, myexplode, mylabels);
title('Mean Nutrient Intake');

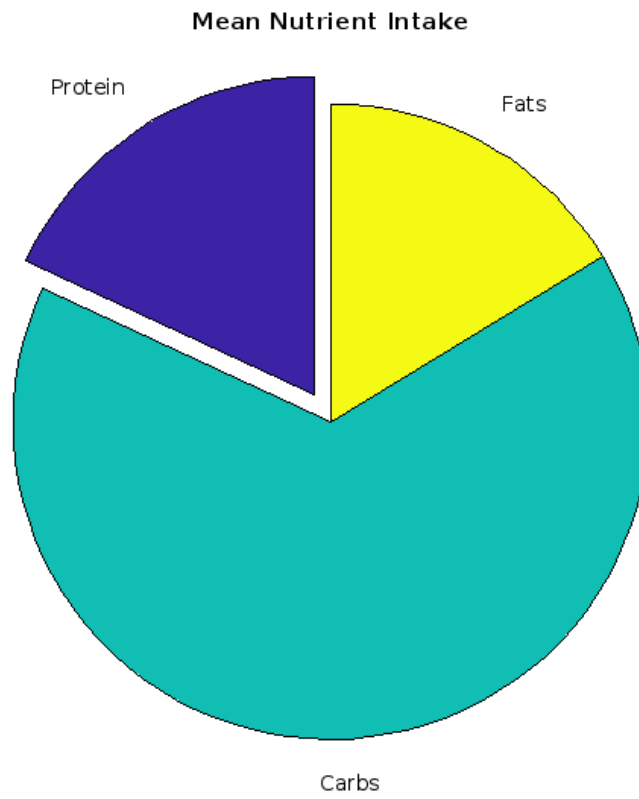
% Display the pie chart
hFig = gcf; % Get current figure handle
set(hFig, 'Position', [100, 100, 800, 600]); % Set figure size

% Print mean values
fprintf('Mean Protein Intake per day: %.2f grams\n', protein);
fprintf('Mean Carbs Intake per day: %.2f grams\n', carbs);
fprintf('Mean Fats Intake per day: %.2f grams\n', fats);

Mean Calories Daily Intake: 1661.34
Mean Calories Daily Burned: 2643.62
Mean Resting Heart Rate: 69.21
Mean Walking Heart Rate: 108.52
Mean Protein Intake per day: 62.38 grams
Mean Carbs Intake per day: 226.41 grams
Mean Fats Intake per day: 56.24 grams

```





Published with MATLAB® R2023a