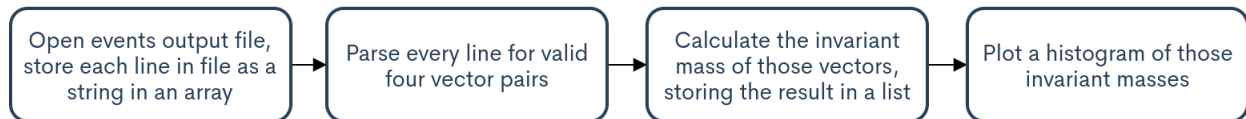


Design Documentation for `four_vec.py`

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Diagram



Packages Required

- Numpy: Powerful scientific computing package
- Matplotlib: Visual wrapper and renderer for Numpy

Functions or Structures Provided

- `function_name(input type: input_name): description`
- `str_to_vec(string: line):` When parsing the lines contained in the output file, if the line contains data that is recognizable, converts the relevant line from a human readable string, to a float array
- `calc_mass(float array: vec):` Given a `four_vec` (float array) returns: $\sqrt{E^2 + \vec{p}^2}$
- `calc_mom(float array: vec):` Given a `four_vec` (float array), returns the magnitude of the momentum: $\sqrt{\sum_i p_i^2}$
- `str_starts_as_num(string: s):` Given a string (a line string in this case), checks if the string contains recognizable words in the language of our computations. A word in this language is any positive or negative array of numbers