# Reverse String

|  |
| --- |
| Java |
| public class ReverseString {     public static void main(String[] args) {        String input = "retlaohS";        char[] output = new char[input.length()];        for(int i = input.length() - 1, j = 0; i >= 0; i--, j++) {           output[j] = input.charAt(i);        }        String reversed = new String(output);        System.out.println(reversed);     }  } |

# Packing

|  |
| --- |
| SQL |
| SELECT user\_code, count(tote\_number) as num\_packed  FROM order\_tote\_process\_log  WHERE CAST(process\_date as time) >= '10:00:00' AND CAST(process\_date as time) <= '10:59:59'  AND action\_code = 'PACKED'  AND user\_code <> 'SYS' -- optional clause  GROUP BY user\_code  ; |

Expected Output from given data:

|  |  |
| --- | --- |
| user\_code | num\_packed |
| P1 | 1 |

# Warehouse

|  |
| --- |
| Python |
| def calculate\_max\_quantity(box\_length, box\_width, box\_height, product\_length, product\_width, product\_height):      # in python 3, // is integer division, rounds down to nearest integer      length\_constraint = box\_length // product\_length      width\_constraint  = box\_width  // product\_width      height\_constraint = box\_height // product\_height      max\_quantity = length\_constraint \* width\_constraint \* height\_constraint      return max\_quantity |

# Logistics

**Please also see the q4 subdirectory of the repository. It includes a README file.**

Endpoint: POST /calculate-shipping-fee

The request body is a JSON object that contains a single key-value pair. The key is "items" and the value is an array of objects. Each object in the array represents a parcel and contains the following fields:

|  |  |
| --- | --- |
| length | Length of parcel in centimetres (float) |
| width | Width of parcel in centimetres (float) |
| height | Height of parcel in centimetres (float) |
| weight | Weight of parcel in kilograms (float) |
| temperature\_condition | The temperature condition of the parcel, which can be either "Ambient" or "Chill" (string) |
| quantity | The number of parcels with the same dimension and weight (integer). |

Sample Request parameters:

{

    "items": [

        {

            "length": 30.5,

            "width": 20.5,

            "height": 10.2,

            "weight": 2.4,

            "temperature\_condition": "Ambient",

            "quantity": 3

        },

        {

            "length": 40.1,

            "width": 30.0,

            "height": 20.4,

            "weight": 6.1,

            "temperature\_condition": "Chill",

            "quantity": 1

        }

    ]

}

Response body:

{

    "total\_fee": "integer"

}