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PIAIC AI BATCH 07 KARACHI

CNC022080

TASK 1 NUMPY SOLVED

Reading Recipes

Note: Data file is recipes.csv Attached with jupyter notebook

1. Start by importing NumPy as np

In [1]:
```
import numpy as np
```

1. All of Alize’s recipes call for milk, eggs, sugar, flour, and butter. For example, her cupcake recipe calls for:

Flour Sugar Eggs Milk Butter 2 cups 0.75 cups 2 eggs 1 cups 0.5 cups Create a NumPy array that represents this data. Each element should be a number (i.e., 2 for “2 cups”). Save this array as cupcakes.

In [6]:
```
cupcakes=all[0:1,0:]
print(cupcakes)
```

```
[[2.   0.75 2.   1.   0.5 ]]
```

1. Alize’s assistant has compiled all of her recipes into a csv (comma-separated variable) file called recipes.csv. Load this file into a variable called recipes.

#####Explore yourselves how to load a csv file in numpy

In [3]:
```
import numpy as np
all=np.genfromtxt('recipes.csv',delimiter=',')
print(all)
```

```
[[2.    0.75  2.    1.    0.5  ]
 [1.    0.125 1.    1.    0.125]
 [2.75  1.5   1.    0.    1.   ]
 [4.    0.5   2.    2.    0.5  ]]
```

4.Display recipes using print. Display recipes using print.

Each row represents a different recipe. Each column represents a different ingredient.

Recipe Cups of Flour Cups of Sugar Eggs Cups of Milk Cups of Butter

Cupcakes … … … … …

Pancake … … … … …

Cookie … … … … …

Bread … … … … …

In [7]:
```
cupcakes=all[0:1,0:]
print(cupcakes)
pancake=all[1:2,0:]
print(pancake)
cookie=all[2:3,0:]
print(cookie)
bread=all[3:4,0:]
print(bread)
```

```
[[2.   0.75 2.   1.   0.5 ]]
[[1.    0.125 1.    1.    0.125]]
[[2.75 1.5  1.   0.   1.  ]]
[[4.  0.5 2.  2.  0.5]]
```

5.The 3rd column represents the number of eggs that each recipe needs.

Select all elements from the 3rd column and save them to the variable eggs.

In [10]:
```
egg=all[0:,2:3]
print(egg)
```

```
[[2.]
 [1.]
 [1.]
 [2.]]
```

6.Which recipes require exactly 1 egg? Use a logical statement to get True or False for each value of eggs.

In [11]:
```
np.array(egg)
print(egg==1)
```

```
[[False]
 [ True]
 [ True]
 [False]]
```

7.Alize is going to make 2 batches of cupcakes (1st row) and 1 batch of cookies (3rd row).

You already have a variable for cupcakes. Create a variable for cookies with the data from the 3rd row.

In [12]:
```
cookies=all[2:3,0:]
print(cookies)
```

```
[[2.75 1.5  1.   0.   1.  ]]
```

8. Get the number of ingredients for a double batch of cupcakes by using multiplication on cupcakes. Save your new variable to double_batch.

In [13]:
```
double_batch=cupcakes*2
print(double_batch)
```

```
[[4.  1.5 4.  2.  1. ]]
```

9. Create a new variable called grocery_list by adding cookies and double_batch.

In [21]:
```
grocery_list=double_batch+cookies
print(grocery_list)
```

```
[[6.75 1.65 5.   2.   2.  ]]
```

In [ ]:
```

```