

A photograph of a wooden post rack holding several colorful US Mailboxes. The mailboxes are arranged in two rows. The top row includes a grey mailbox on the far left, followed by yellow, blue, green, orange, teal, and red. The bottom row includes a green mailbox on the far left, followed by red, teal, yellow, grey, blue, and orange. The background is a dark, textured wall, and the foreground shows wooden planks.

# ESCENARIOS POSTMAN

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# TEST TRAIN

POST http://127.0.0.1:8000/train

Params Authorization Headers (9) **Body** Pre-request Script Tests Settings

☐ none ☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary ☐ GraphQL **JSON** ▾

```
1 {
2   "data": [
3     {
4       "life_expentancy": 65.0,
5       "adult_mortality": 263.0,
6       "infant_deaths": 62,
7       "alcohol": 0.01,
8       "percentage_expenditure": 71.27962362,
9       "hepatitis_B": 65.0,
10      "measles": 1154,
11      "bmi": 19.1,
12      "under_five_deaths": 83,
13      "polio": 6.0,
14      "total_expenditure": 8.16,
15      "diphtheria": 65.0,
16      "hiv_aids": 0.1,
17      "gdp": 584.25921,
18      "population": 33736494.0,
19      "thinness_10_19_years": 17.2,
20      "thinness_5_9_years": 17.3,
21      "income_composition_of_resources": 0.479,
22      "schooling": 10.1
23    },
24  ]
25 }
```

**Body** Cookies (1) Headers (4) Test Results

Pretty

Raw

Preview

Visualize

JSON ▾



1  
2  
3

```
{
```

"R<sup>2</sup>": 0.6567744276096692

```
}
```

# PREDICT 1 - CORRECT

POST http://127.0.0.1:8000/predict

Params Authorization Headers (9) **Body** Pre-request Script Tests Settings

☐ none ☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary ☐ GraphQL **JSON** ▾

```
1 {
2   ... "adult_mortality": 263,
3   ... "infant_deaths": 62,
4   ... "alcohol": 0.01,
5   ... "percentage_expenditure": 71.27962362,
6   ... "hepatitis_B": 65,
7   ... "measles": 1154,
8   ... "bmi": 19.1,
9   ... "under_five_deaths": 83,
10  ... "polio": 6.0,
11  ... "total_expenditure": 8.16,
12  ... "diphtheria": 65.0,
13  ... "hiv_aids": 0.1,
14  ... "gdp": 584.25921,
15  ... "population": 33736494.0,
16  ... "thinness_10_19_years": 17.2,
17  ... "thinness_5_9_years": 17.3,
18  ... "income_composition_of_resources": 0.479,
19  ... "schooling": 10.1
20 }
```

**Body** Cookies (1) Headers (4) Test Results

Pretty

Raw

Preview

Visualize

JSON ▾



```
1 {
2   "Prediction": 59.45177556967521
3 }
```

# PREDICT 2 - CORRECT


POST http://127.0.0.1:8000/predict

Params Authorization Headers (9) **Body** Pre-request Script Tests Settings

☐ none ☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary ☐ GraphQL **JSON** ▾

```
1 {
2   ...."adult_mortality": 263,
3   ...."infant_deaths": 42,
4   ...."alcohol": 0.8,
5   ...."percentage_expenditure": 91.27962362,
6   ...."hepatitis_B": 75,
7   ...."measles": 1154,
8   ...."bmi": 19.1,
9   ...."under_five_deaths": 83,
10  ...."polio": 8.0,
11  ...."total_expenditure": 8.16,
12  ...."diphtheria": 65.0,
13  ...."hiv_aids": 0.1,
14  ...."gdp": 584.25921,
15  ...."population": 33736494.0,
16  ...."thinness_10_19_years": 18.2,
17  ...."thinness_5_9_years": 15.3,
18  ...."income_composition_of_resources": 0.279,
19  ...."schooling": 12.1
20 }
```

**Body** Cookies (1) Headers (4) Test Results

Pretty Raw Preview Visualize **JSON** ▾ 

```
1 {
2   "Prediction": 58.7533354966946
3 }
```

# PREDICT 3 - WRONG

POST http://127.0.0.1:8000/predict

Params Authorization Headers (9) Body Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```
1 {
2   "adult_mortality": 263,
3   "infant_deaths": 62,
4   "alcohol": -250,
5   "percentage_expenditure": 71.27962362,
6   "hepatitis_B": 65,
7   "measles": 1154,
8   "bmi": 19.1,
9   "under_five_deaths": 83,
10  "polio": 6.0,
11  "total_expenditure": 8.16,
12  "diphtheria": 65.0,
13  "hiv_aids": 0.1,
14  "gdp": 584.25921,
15  "population": 33736494.0,
16  "thinness_10_19_years": 17.2,
17  "thinness_5_9_years": 17.3,
18  "income_composition_of_resources": 0.479,
19  "schooling": 10.1
20 }
```

Body Cookies (1) Headers (4) Test Results

Pretty Raw Preview Visualize JSON

```
1 {
2   "Prediction": -9.71667531810619
3 }
```

# PREDICT 4

POST http://127.0.0.1:8000/predict

Params Authorization Headers (9) **Body** Pre-request Script Tests Settings

☐ none ☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary ☐ GraphQL JSON

```
1 {
2   "adult_mortality": 263,
3   "infant_deaths": 62,
4   "alcohol": 0.8,
5   "percentage_expenditure": 71.27962362,
6   "hepatitis_B": 65,
7   "measles": 1154,
8   "bmi": 5000,
9   "under_five_deaths": 83,
10  "polio": 6.0,
11  "total_expenditure": 8.16,
12  "diphtheria": 65.0,
13  "hiv_aids": 0.1,
14  "gdp": 584.25921,
15  "population": 33736494.0,
16  "thinness_10_19_years": 17.2,
17  "thinness_5_9_years": 17.3,
18  "income_composition_of_resources": 0.479,
19  "schooling": 10.1
20 }
```

Body Cookies (1) Headers (4) Test Results

Pretty

Raw

Preview

Visualize

JSON



```
1 {
2
3 }
```

"Prediction": 273.2034993965924

# PREDICT 5

POST http://127.0.0.1:8000/predict

Params Authorization Headers (9) **Body** Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```
1 {
2   ...."adult_mortality": 263,
3   ...."infant_deaths": 62,
4   ...."percentage_expenditure": 71.27962362,
5   ...."hepatitis_B": 65,
6   ...."measles": 1154,
7   ...."bmi": 19.1,
8   ...."under_five_deaths": 83,
9   ...."polio": 6.0,
10  ...."total_expenditure": 8.16,
11  ...."diphtheria": 65.0,
12  ...."hiv_aids": 0.1,
13  ...."gdp": 584.25921,
14  ...."population": 33736494.0,
15  ...."thinness_10_19_years": 17.2,
16  ...."thinness_5_9_years": 17.3,
17  ...."income_composition_of_resources": 0.479,
18  ...."schooling": 10.1
19 }
```

Body Cookies (1) Headers (4) Test Results

Pretty

Raw

Preview

Visualize

JSON



```
1 {
2   "detail": [
3     {
4       "loc": [
5         "body",
6         "alcohol"
7       ],
8       "msg": "field required",
9       "type": "value_error.missing"
10    }
11  ]
12 }
```

# CONCLUSIONES

- En total se tienen 5 pruebas de predict, y 1 de train.
  1. *Train*: Carga una tabla de datos y devuelve la métrica de  $R^2$ .
  2. *Predict*: Prueba y valor lógico correctos.
  3. *Predict*: Prueba y valor lógico correctos.
  4. *Predict*: Prueba correcta y valor lógico incorrecto.
  5. *Predict*: Prueba correcta y valor lógico incorrecto.
  6. *Predict*: Prueba incorrecta.
- Como conclusiones de porque un resultado es incorrecto se tiene un explicación visible de los datos. Cuando una variable esta fuera de su rango normal (definase normal, como dentro de los limites estipulados por el negocio y la naturaleza para dicho componente) la predicción es errorea. Un segundo resultado no evidente por lo obtenido en el análisis del laboratio 3 puede ser entrenar el modelo con datos que tengan problemas dentro de los supuestos.
- Como conclusión cuando la aplicación falla se debe unicamente a la violación de los parametros del **json** pasados en postamn, es decir, falta algun parametro.
- Como medida de solución, se propone: *Realizar una validación por medio del API de los datos, buscando comprobar si todas las variables estan dentro del rango normal, o en su defecto, usar un SimpleImputer de la libreria Sklearn. Así se logra validar que la información presentada sea correcta. Segundo, programar filtros personalizados que permitan remover columnas o transformar los datos cuando un supuesto se viole con el fin de saber que los resultados del modelo son fiables. Tercero, y ya respecto al API, permitir que no se pasen ciertos campos sin marcar error, pero que dichos campos sean luego imputados por medio de alguna tecnica.*