

Slip 12: HTML Program - PHP Arithmetic Operations with `include/require`

```
<html>
<body>
  <form action="slip12.php" method="POST">
    First number: <input type="text" name="num1"><br>
    Second number: <input type="text" name="num2"><br>
    Choose operation:<br>
    <input type="radio" name="op" value="add"> Addition<br>
    <input type="radio" name="op" value="sub"> Subtraction<br>
    <input type="submit" value="Submit"><br>
  </form>
</body>
</html>
```

PHP File (slip12.php)

```
<?php
$num1 = $_POST['num1'];
$num2 = $_POST['num2'];
$op = $_POST['op'];

include 'operations.php';

switch ($op) {
  case "add":
    echo "Addition is: " . add($num1, $num2);
    break;
  case "sub":
    echo "Subtraction is: " . sub($num1, $num2);
    break;
}
?>
```

PHP File (operations.php)

```
php
Copy code
<?php
function add($x = 0, $y = 0) {
  return $x + $y;
}

function sub($x = 0, $y = 0) {
  return $x - $y;
}
?>
```

Slip 12: Python Program - Random Array Plotting

```
import numpy as np
import matplotlib.pyplot as plt

data = np.random.randint(1, 100, 50)
```

```

plt.plot(data, color='blue')
plt.title('Line Chart')
plt.show()

plt.scatter(range(50), data, color='red')
plt.title('Scatter Plot')
plt.show()

plt.hist(data, bins=10, color='green')
plt.title('Histogram')
plt.show()

plt.boxplot(data)
plt.title('Box Plot')
plt.show()

```

Slip 12: Python Program - Dataframe with Missing and Duplicate Values

```

import pandas as pd
import numpy as np

df = pd.DataFrame({
    'name': ['John', 'Jane', 'Jake', 'Jill', 'Josh', np.nan, 'Jane', 'John'],
    'salary': [50000, 60000, np.nan, 58000, 70000, 55000, 60000, 50000],
    'department': ['HR', 'IT', 'IT', 'HR', 'Sales', 'IT', 'HR', 'Sales']
})

df.dropna(inplace=True)
df.drop_duplicates(inplace=True)
print(df)

```