21. Write a function in PHP that takes an array of strings as a parameter and returns a string representation of this array in XML; where keys in the array are the tag names and the value of each key is the text inside the tag.

Note:

- The resulting XML **must be valid.**
- The XML should be **built as a string throughout the code**. You are not allowed to use any other classes or functions (i.e. **you are not allowed to use the SimpleXMLElement class**)
- You may **add any extra elements** as you see fit.
- Assume the array keys already **adhere to tag naming rules**.
- Hint: While testing (to see what the function actually returns), you may use the htmlspecialchars() function; or just check the returned document using Developer Tools on Chrome.

Model answer:

```php
<?php
function array_to_xml($a){
//Write your code here:
        $result = "<root>";
        foreach($a as $key => $value){
                $result .= "<$key>$value</$key>";


        }
        $result .= "</root>";
        return $result;
//Don't write anything beyond this point.
}
?>
```

22.

Given a third-party API that retrieves the latest COVID-19 statistics of different cities in Saudi Arabia, please build a **front-end client** using jQuery and AJAX to enable the user to view the following information regarding a selected city:

- Total number of COVID-19 cases
- Percentage of infected people (100 * total infected / population)
- Reported number of new cases on April 22.

API Documentation:

This API receives a city name from Saudi Arabia and returns detailed statistics regarding COVID-19 infections in the past 5 days. The information was sourced from covid19.moh.gov.sa/

URL: http://afnan.ws/apis/stats/covid19.php
Backup URL: http://api.ksuit.org/stats/covid19.php

Method: GET

Parameters:

- city: The name of a city in Saudi Arabia. Note: the API only supports querying about Riyadh, Dammam, Makkah and Madinah only.

Returned type:

The data is returned in JSON format containing the city name, its population and the number of total cases (total_infected). The Time Series object returns an object for each of the past five days. The value for each day is an array containing three values: first [0] is the number of cases in that day, second [1] is the number of cured and third [2] is number of deaths.

For example, if city=Riyadh is sent to the API, it will return:

```json
{
        "city":"Riyadh",
        "population":5188000,
        "total_infected":2980,
        "time_series":{
                "April_18":[85,24,0],
                "April_19":[200,59,0],
                "April_20":[148,69,2],
                "April_21":[164,30,0],
                "April_22":[157,51,0]
        }
}
```

Note: The API supports Cross Origin Resource Sharing. You may call it directly from your JavaScript code.

Model Answer:

```html
<!DOCTYPE html>
<head>
<meta charset="UTF-8">
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.4.1/jquery.min.js">
</script>
<script>
        $(document).ready(
        function(){
         $("#city").change(
         function(){
            //Get the selected city:
            var c = $("#city").val();
            //Initiate get request:
            $.get("http://afnan.ws/apis/stats/covid19.php", //URL
            {city: c},                                      //Parameters
            function(data){                                 //Callback
                var city = data.city;
                var population = data.population;
                var total = data.total_infected;
                var latest = data.time_series.April_22[0];

                $("#current_city").html(city);
                $("#total").html(total);
                $("#percentage").html(100*total/population);
                $("#latest").html(latest);

            },
            'JSON');                    //Returned type (or 'text', then parse JSON)
            }
            );
        }
);
</script>
</head>
<body>
Select a city: <select name="city" id="city">
        <option value="null">Please Select a city</option>
        <option value="Riyadh">Riyadh</option>
        <option value="Makkah">Makkah</option>
        <option value="Madinah">Madinah</option>
        <option value="Dammam">Dammam</option>
</select>
<br/>
        <h1  id="current_city"></h1>
        <p>Total Number of COVID-19 Cases: <span id="total"></span></p>
        <p>Percentage of infected: <span id="percentage"></span></p>
        <p>Reported Number of COVID-19 Cases on 22 April: <span
id="latest"></span></p>



<body>
</html>
```