Online Technical Assessment

Thank you for your interest in the position of Technology Analyst/Intern at Deloitte in Malaysia. We are pleased to invite you to participate in online technical assessment.

This is the first stage of our recruitment process. Please take note that this online technical assessment shall be complete within 2 hours. Please proceed with the questions below, you are required to complete all questions.

1

Full name *

Barry Khaw

2

Your best email address *

barry_khaw@outlook.com

HTML Assessment

Please answer all questions in HTML format.

3

Write JavaScript to compare two number, biggest value will prompt "BIG" and smallest value will prompt "SMALL"? *

```
let num1 = prompt("Enter first number:");
let num2 = prompt("Enter second number:");

function bigvsSmol(num1, num2) {
   if (Number(num1) > Number(num2)) {
   console.log("BIG:",num1);
   console.log("SMALL:", num2);
   } else if (Number(num1) < Number(num2)) {
   console.log("BIG:",num2);
   console.log("SMALL:",num1);
   } else {
   alert("The numbers are equal.");
   }

}

bigvsSmol(num1, num2)
```

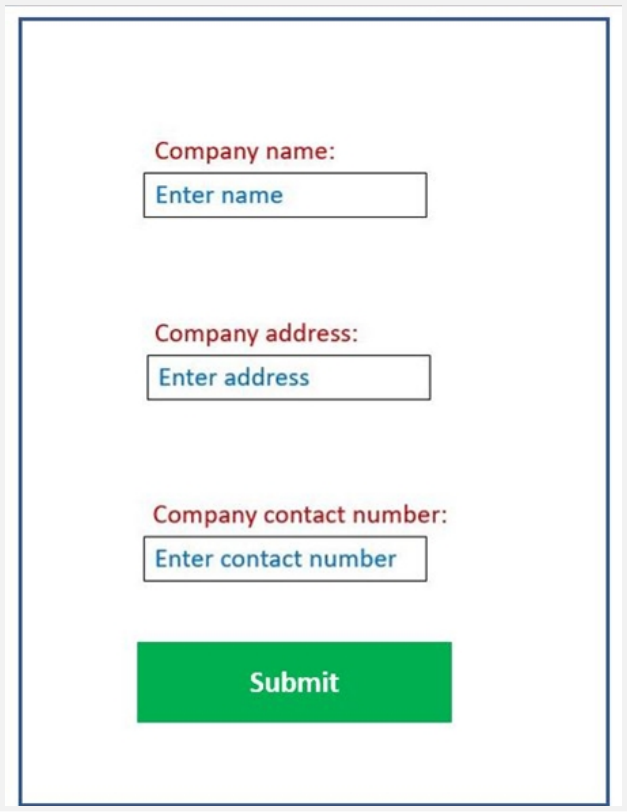
4

Write an HTML table tag sequence that outputs the following:
Apple pcs 500 **Apple**
50 **pcs** 5 **Apple** *

```
<table>
 <tr>
  <td>   <b>Apple pcs</b> 500 <b>Apple</b> </td>

 </tr>

<td>          &
nbsp; 50 <b>pcs</b> 5 <b>Apple</b></td>
 <tr>

 </tr>
</table>
```

5

Write a HTML tag that will output the following form: *



```
<!DOCTYPE html>
<html>
<head>
	<style>
	.container{
	margin: auto;
		text-align: center;
   }
   input[type="submit"] {
		background-color: green;
		color: white;
		border: none;
		padding: 20px 70px;
	font-weight: bold;

	}
   input[type="text"] {
		color: blue;
	}
   label{

	margin-right: 72px;
	text-align: right;

   }
	</style>
</head>
<body>
	<div class = "container">
	<form action="/action_page.php">
	  <label>Company name:</label><br>
	  <input type="text" value="Enter name"><br>
	  <label>Address name:</label><br>
	  <input type="text" value="Enter Address"><br>
	  <label>
           
     Company contact number:</label><br>
	  <input type="text" value="Enter contact number"><br><br>
	  <input type="submit" value="Submit">
	</form>
   </div>

</body>
</html>
```

Programming

6

Describe the differences between SOAP and REST? *

SOAP used XML as its based message protocol while REST can use various data formats to send messages such as XML or JSON.
SOAP doesn't return a human readable result where REST able to return a readable result such as XML and JSON

7

What are some important annotations which you use to create RESTful web services? *

1.@RestController
2. @RequestMapping
3. @PathVariable
4. @RequestBody
5. @ResponseBody
6. @ResponseBody

8

Complete the Java function below to print 2 biggest number from the array. *

JAVA:

```
public static void main(String[] args)
{
  int num[] = {5,34,78,2,45,1,98,23,97,-45};
  printTwoBiggestNumbers(num);

}

public void printTwoBiggestNumbers(int[] n)
{
        //complete your program here
}
```

Expected Output:

```
First Biggest Number: 98
Second Biggest Number: 97
```

```
import java.util.Arrays;

class HelloWorld {
    public static void main(String[] args) {
        int[] num = {5,34,78,2,45,2,45,1,98,23,97,-45};
        printTwoBiggestNumbers(num);

    }
    public static void printTwoBiggestNumbers(int[] n){
        Arrays.sort(n);
        System.out.println("First Biggest Number: "+n[n.length-1]);
        System.out.println("\nSecond Biggest Number: "+n[n.length-2]);

    }
}
```

Programming

9

Write a Java program which loop numbers from 1 to 100. For multiples of 7 print "Ta" instead of the number and print "Da" for the multiples of 9. When number is divided by 10, print "TaDa". *

Expected Output:-

```
7: Ta
9: Da
10: TaDa
14: Ta
18: Da
20: TaDa
21: Ta
27: Da
28: Ta
30: TaDa
```

```
public class MyClass {
    public static void main(String args[]) {
      for(int i=1;i<=100;i++){
            if(i%7==0){
                System.out.println(i+": Ta ");
            }
            if(i%9==0){
                System.out.println(i+": Da ");
            }
            if(i%10==0){
                System.out.println(i+": TaDa ");
            }

        }
    }
}
```

10

Complete the Java function below to removing the duplicates from the array. *

JAVA:

```
public static void main(String[] args)
{
  System.out.print("The value is " +
removeDuplicate(1,2,3,4,4,4,4,4,5,5,5,6,5,5,5,5,5,8));
}

public static String removeDuplicate (int[] p)
{
     //complete your program here
}
```

Expected Output:-

```
The value is 1,2,3,4,5,6,8
```

```
import java.util.*;

public class MyClass {
    public static void main(String args[]) {
        int[] inputArray = {1, 2, 3, 4, 4, 4, 4, 4, 5, 5, 5, 6, 5, 5, 5, 5, 5, 8};
        System.out.println("This value is " + removeDuplicate(inputArray));
    }

    public static String removeDuplicate(int[] p) {
        Set<Integer> set = new HashSet<>();


        for (int i = 0; i < p.length; i++) {
            set.add(p[i]);
        }


        String result = "";
        int index = 0;
        for (int element : set) {
            if (index == 0) {
                result += element;
            } else {
                result += ", " + element;
            }
            index++;
        }


        return result;
    }
}
```

Programming

11

Write a program that is able to calculate the total amount while giving a discount which can be up to a maximum of 15 % based on the quantity of fruits. Each increment of 12 in fruits will increase discount by 1%. *

JAVA:

```
public static void main(String[] args){

        String[][] itemArr = {{"Durian","45.50","50"},
                              {"Apple","5.50","6"},
                              {"Orange","6.00","10"}};

        calculateAndPrint(itemArr);
}

private static void calculateAndPrint(String[][] itemArr){
                //Complete your program here
}
```

Expected Output:

```
You have bought 50 Durian with total of RM 2275.0
You have bought 6 Apple with total of RM 33.0
You have bought 10 Orange with total of RM 60.0
Total discount rate: 5%
Total amount paid: RM 2249.6
```

```
public class MyClass {
   public static void main(String args[]) {
       String[][] itemArr = {{"Durian","45.50","50"},
                             {"Apple","5.50","6"},
                             {"Orange", "6.00", "10"}};
      calculateAndPrint(itemArr);
   }
   private static void calculateAndPrint(String[][] itemArr){

      double totalAmount = 0;
      int totalFruits = 0;
      int discountPercent = 0;

      for (String[] item : itemArr) {
         String fruitName = item[0];
         double fruitPrice = Double.parseDouble(item[1]);
         int fruitQuantity = Integer.parseInt(item[2]);
         totalFruits += fruitQuantity;
         totalAmount += (fruitPrice * fruitQuantity);
         System.out.println("You have bought " + item[2] +" "+ item[0] + " with total of
"+ "RM " + (fruitPrice*fruitQuantity));
      }

      if (totalFruits >= 12) {
         int count = totalFruits / 12;

         discountPercent = count;
      }

      double discountAmount = totalAmount * (discountPercent / 100.0);
      double discountedTotalAmount = totalAmount - discountAmount;

      System.out.println("Total discount rate: " + discountPercent + "%");
      System.out.println("Total amount paid: RM " + discountedTotalAmount);
   }

}
```

SQL

12

Given 2 tables below, write a single SQL query to display below result *

T_CUSTOMER

CUST_ID	FIRST_NAME	CITY
CUS001	David	New York
CUS002	Quin	Berlin
CUS003	Lalisa	Moscow
CUS004	Kaelyn	Paris
CUS005	James	Berlin

T_ORDER

ORDER_NO	ORDER_AMT	ORDER_DATE	CUST_ID
ORD0001	558.00	01-02-2020	CUS001
ORD0002	345.55	02-02-2020	CUS004
ORD0003	664.80	02-02-2020	CUS003
ORD0004	340.90	06-02-2020	CUS004
ORD0005	262.13	06-02-2020	CUS001
ORD0006	121.20	10-02-2020	CUS002

Write SQL query to display below result:

- Result should ONLY contain 3 columns: **FIRST_NAME, TOTAL_AMT, CITY**
- **TOTAL_AMT** column is sum of order amount of respective customer
- Do not show customers from **CITY** = **Berlin**
- Order data by **TOTAL_AMT descending**

Expected Output:-

FIRST_NAME	TOTAL_AMT	CITY
David	820.13	New York
Kaelyn	686.45	Paris
Lalisa	664.8	Moscow

```
SELECT FIRST_NAME, SUM(TOTAL_AMT), CITY
FROM T_CUSTOMER
INNER JOIN T_ORDER ON T_CUSTOMER.CUST_ID = T_ORDER.CUST_ID
WHERE CITY = 'Berlin'
GROUP BY FIRST_NAME, CITY
ORDER BY SUM(TOTAL_AMT) DESC;
```