

Exercise – 1 Questions & Answers

JAVA

1. Find unique strings in an array of strings?

Input: strArray = {"abc", "def", "ABZ", "ASD", "AbC"};

Similar strings - include case insensitive

output - "abc", "def", "ABZ", "ASD"

Code:

```
import java.util.*;
class Q1 {
    public static void main(String[] args) {
        String[] strArray = {"abc", "def", "ABZ", "ASD", "AbC"};
        Set<String> s = new HashSet<String>();
        for(int i = 0; i < strArray.length; i++) {
            if(!s.contains(strArray[i].toLowerCase())) {
                s.add(strArray[i]);
            }
        }
        for(String l: s) {
            System.out.print(l + ", ");
        }
    }
}
```

2. Write a program in Java to create an abstract class market. There are two methods getPrice() and getProductName() as abstract method.

Code:

```
class Q2 {
    public static void main(String[] args) {
        Mobile m = new Mobile();
        m.getProductName();
        m.getPrice();
    }
}

abstract class Market{
    abstract void getPrice();
    abstract void getProductName();
}
```

```

class Mobile extends Market {
    @Override
    public void getPrice(){
        System.out.println("Price: " + 50000);
    }
    @Override
    public void getProductName(){
        System.out.println("Product: Apple");
    }
}

```

3. Write a program in Java to find 2nd largest number in an array of Strings?

Code:

```

class Q3 {
    public static void main(String[] args) {
        int arr[] = {9, 7, 5, 3, 1, 2, 4, 6, 8, 0};
        for(int i = 0; i < arr.length; i++) {
            for(int j = i + 1; j < arr.length; j++) {
                if(arr[i] > arr[j]) {
                    int temp = arr[i];
                    arr[i] = arr[j];
                    arr[j] = temp;
                }
            }
        }
        System.out.println("Second Largest Number: " +
arr[arr.length - 2]);
    }
}

```

4. Write a program in Java to find pair of numbers whose sum is a number present in an array of integers?

Example - {2, 5, 8, 9, 0, 1, 7, 10}

Output - (2, 5), (9, 1), (0, 1)

Code:

```

class HelloWorld {
    public static void main(String[] args) {
        int arr[] = {2, 5, 8, 9, 0, 1, 7, 10};
        for(int i = 0; i < arr.length - 1; i++) {
            for(int j = i + 1; j < arr.length; j++) {
                for(int k = 0; k < arr.length; k++) {

```

```

        if((i != j) && (arr[i] + arr[j] == arr[k]))
        {
            System.out.println("(" + arr[i] + ", "
+ arr[j] + ")");
        }
    }
}
}
}
}

```

SQL

1. Create and execute the SQL in the tables (mentioned below)

Tables

Subject (id, rollno, subjectname, marks)

Code:

```

CREATE TABLE Subject(
    id VARCHAR(10) PRIMARY KEY,
    rollno INT,
    subjectname VARCHAR(20),
    marks INT
);
INSERT INTO Subject VALUES('A001', 2863, 'Maths', 80);
INSERT INTO Subject VALUES('A002', 2864, 'Physics', 90);
INSERT INTO Subject VALUES('A003', 2865, 'Chemistry', 50);
INSERT INTO Subject VALUES('A004', 2866, 'Biology', 70);
INSERT INTO Subject VALUES('A005', 2867, 'History', 60);

```

Student (id, rollno, sname, address)

Code:

```

CREATE TABLE Student(
    id VARCHAR(10),
    rollno INT,
    sname VARCHAR(20),
    address VARCHAR(50),
    FOREIGN KEY(id) REFERENCES Subject(id)
);
INSERT INTO Student VALUES('A003', 2865, 'Aisha', 'Aiginia');
INSERT INTO Student VALUES('A004', 2866, 'Abhishek', 'Kalpana');
INSERT INTO Student VALUES('A004', 2866, 'Amlan', 'Old Town');
INSERT INTO Student VALUES('A001', 2863, 'Sauransu', 'Unit-1');

```

Write a SQL query to find the count of all students studying a particular subject?

Code:

```
SELECT subjectname, COUNT(id) AS TotalStudents FROM Subject
WHERE subjectname = 'Physics'
GROUP BY subjectname;
```

Write a SQL query to find total marks of a particular student for all subjects?

Code:

```
SELECT SUM(marks) AS TotalMarks FROM Subject, Student
WHERE Subject.id = Student.id
AND sname = 'Aisha';
```

2. Tables

product(id, name , price ,location)

Code:

```
CREATE TABLE Product(
    id INT PRIMARY KEY,
    name VARCHAR(30),
    price INT,
    location VARCHAR(30)
);
INSERT INTO Product VALUES(1, 'Aisha', 100, 'Aiginia');
INSERT INTO Product VALUES(2, 'Abhishek', 200, 'Kalpana');
INSERT INTO Product VALUES(3, 'Amlan', 50, 'Old Station');
INSERT INTO Product VALUES(4, 'Sauransu', 300, 'Unit-1');
INSERT INTO Product VALUES(5, 'Anjali', 70, 'ITER');
```

manufacturer(id, company_name, product_id, address)

Code:

```
CREATE TABLE Manufacturer(
    id INT,
    company_name VARCHAR(30),
    product_id VARCHAR(5),
    address VARCHAR(20),
    FOREIGN KEY(id) REFERENCES Product(id)
);
INSERT INTO Manufacturer VALUES(2, 'Virtusa', 'A01', 'Khandagiri');
INSERT INTO Manufacturer VALUES(3, 'Microsoft', 'A02', 'Patia');
INSERT INTO Manufacturer VALUES(3, 'Hexaware', 'A03', 'Udaygiri');
INSERT INTO Manufacturer VALUES(1, 'Informatica', 'A04', 'Jagmohan Nagar');
INSERT INTO Manufacturer VALUES(4, 'Meta.net', 'A05', 'Bapuji Nagar');
```

Write a SQL query to find company_name of a particular product and location given input as product_id?
(Use Join statements)

Code:

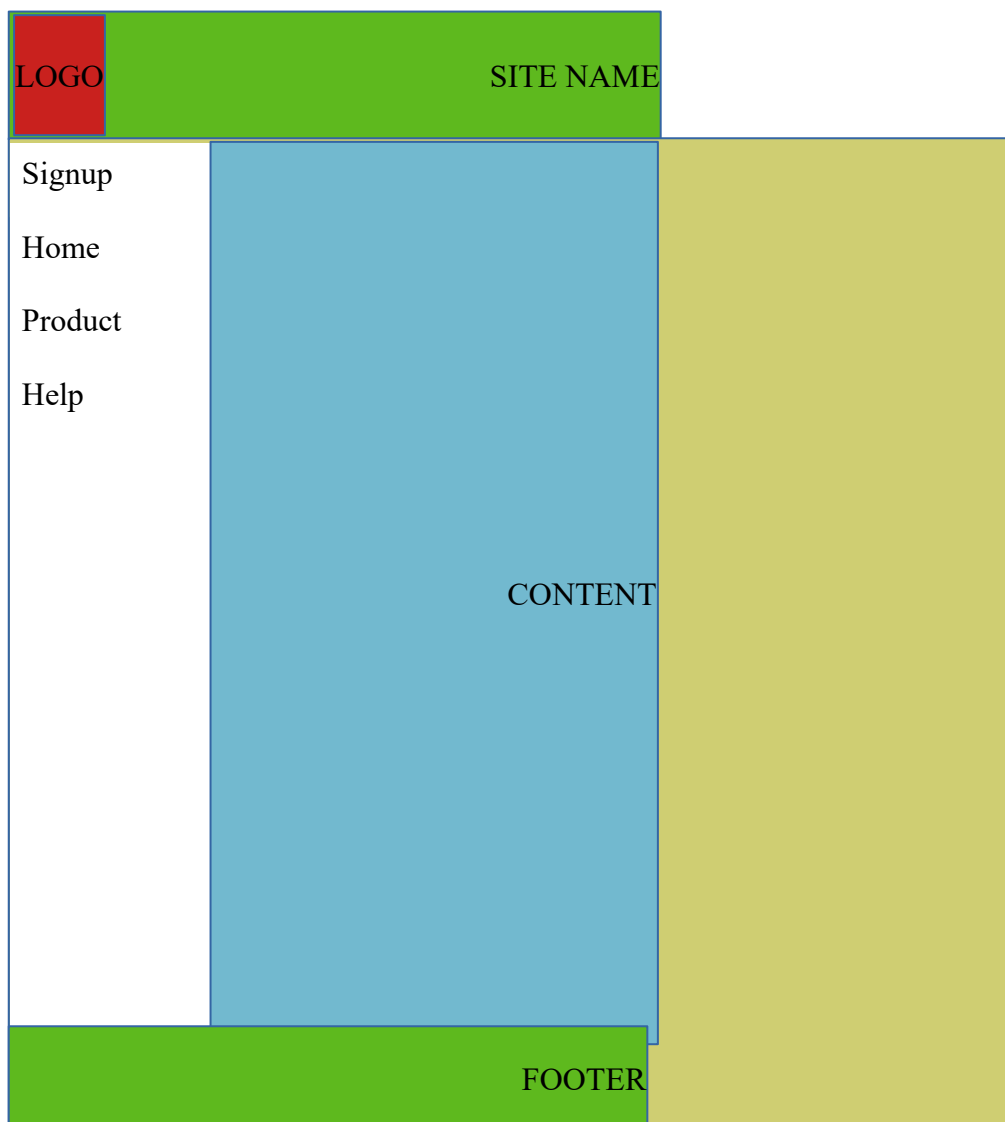
```
SELECT company_name FROM Product, Manufacturer
WHERE Product.id = Manufacturer.id
AND product_id = 'A02';
```

HTML

Design an html page with following layout as mentioned below (Include CSS as mentioned in diagram colour) include table inside content section

Table-1

product_id	product_name	price	location
------------	--------------	-------	----------



Code:

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-
scale=1.0">
  <title>WEBPAGE</title>
  <style>
    div.container {
      display: grid;
      grid-template-columns: 18% 78%;
      grid-gap: 10px;
    }

    div.nested-item {
      display: grid;
      grid-template-columns: repeat(1, 1fr);
      grid-template-rows: 75px 420px 75px;
    }

    div.main-section {
      display: grid;
      grid-template-columns: 30% 20%;
      grid-gap: 10px;
    }

    div.item1 {
      background-color: red;
      padding: 10px;
    }

    div.item2 {
      background-color: green;
      padding: 10px;
    }

    div.item3 {
      background-color: skyblue;
      padding: 10px;
    }

    div.item4 {
```

```
        background-color: rgb(169, 205, 50);
        padding: 10px;
    }
</style>
</head>

<body>
    <div class="container">
        <div class="item1" id="nav">
            LOGO<br><br><br><br>
            Sign up<br>
            Home<br>
            Product<br>
            Help
        </div>
        <div class="nested-item">
            <div class="item2" id="header">
                SITE NAME
            </div>
            <div class="main-section">
                <div class="item3" id="artical">
                    CONTENT
                </div>
                <div class="item4" id="ads">

            </div>
            </div>
            <div class="item2" id="footer">
                Footer
            </div>
        </div>
    </div>
</body>

</html>
```