

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"

```
public class Main
{
    public static void main(String[] args)
    {
        String arr[] = {"abc", "def", "ABZ", "ASD", "Abc"};
        HashMap<String, Integer> hm = new HashMap<>();

        for (String item: arr)
        {
            String q = item.toLowerCase();
            hm.put(q, hm.getOrDefault(q, 0) + 1);
        }

        for (String item: arr)
        {
            String r = item.toLowerCase();
            if (hm.get(r) == 1)
            {
                System.out.println(item);
            }
        }
    }
}
```

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

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

```

int Price;
String Name;
public Market(int Price,String Name){
this.Price=Price;
this.Name=Name;
}
public void getPrice(){
System.out.println(this.Price);
}
public void getProductName(){
System.out.println(this.Name);
}
}

```

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

```

public class SecondLargest
{
public static int getSecondLargest(int[] a, int total)
{
int temp;
for (int i = 0; i < total; i++)
{
for (int j = i + 1; j < total; j++)
{
if (a[i] > a[j])
{
temp = a[i];
a[i] = a[j];
a[j] = temp;
}
}
}
return a[total-2];
}
public static void main(String args[]){
int a[]={1,2,5,6,3,2};
int b[]={44,66,99,77,33,22,55};
System.out.println("Second Largest: "+getSecondLargest(a,6));
}
}

```

```
System.out.println("Second Largest: "+getSecondLargest(b,7));  
}}
```

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)

```
import java.util.*;  
public class sumPairs  
{  
    public static void main(String[] args)  
    {  
        int Sample[] = {2,5,8,9,0,1,7,10};  
        for(int i=0;i<Sample.length;i++)  
        {  
            for(int j=i+1;j<Sample.length;j++)  
            {  
                for(int k =0;k<Sample.length;k++)  
                {  
                    if(Sample[i]+Sample[j]==Sample[k])  
                    {  
                        System.out.println(Sample[i]+" "+Sample[j]);  
                    }  
                }  
            }  
        }  
    }  
}
```

SQL

1. create and execute the sql in the tables(mentioned below)

Tables

Subject (id , rollno, subjectname , marks)

Student (id, rollno, sname, address)

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

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

```
CREATE TABLE Subject(  
    id VARCHAR(10) PRIMARY KEY,  
    rollno INT,  
    subname VARCHAR(20),  
    marks INT  
);
```

```
CREATE TABLE Student(  
    id VARCHAR(10),  
    rollno INT,  
    sname VARCHAR(20),  
    address VARCHAR(50),  
    FOREIGN KEY(id) REFERENCES Subject(id)  
);
```

```
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);
```

```
INSERT INTO Student VALUES('A003', 2865, 'Name1', 'bbsr');  
INSERT INTO Student VALUES('A004', 2866, 'Name2', 'bbsr');  
INSERT INTO Student VALUES('A004', 2866, 'Name3', 'bbsr');  
INSERT INTO Student VALUES('A001', 2863, 'Name4', 'bbsr');
```

```
SELECT subname, COUNT(id) AS 'Total Students' FROM Subject  
WHERE subname = 'Biology'  
GROUP BY subname;
```

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

2)

product(id, name , price ,location)

manufacturer(id, company_name, product_id, address)

Write a SQL query to find company_name of a particular product and location given input as product_id?

(Use Join statements)

```
CREATE TABLE Product(  
    id INT PRIMARY KEY,  
    name VARCHAR(30),  
    price INT,  
    location VARCHAR(30)  
);
```

```
CREATE TABLE manufacturer(  
    id INT,  
    company_name VARCHAR(30),  
    product_id VARCHAR(5),  
    address VARCHAR(20),  
    FOREIGN KEY(id) REFERENCES Product(id)  
);
```

```
INSERT INTO Product VALUES(1, 'Name1', 100, 'bbsr');  
INSERT INTO Product VALUES(2, 'Name2', 200, 'bbsr');  
INSERT INTO Product VALUES(3, 'Name3', 500, 'bbsr');  
INSERT INTO Product VALUES(4, 'Name4', 300, 'bbsr');  
INSERT INTO Product VALUES(5, 'Name5', 700, 'bbsr');
```

```
INSERT INTO manufacturer VALUES(2, 'Virtusa', 'A01', 'bbsr');  
INSERT INTO manufacturer VALUES(3, 'Virtusa', 'A02', 'bbsr');  
INSERT INTO manufacturer VALUES(3, 'Virtusa', 'A03', 'bbsr');  
INSERT INTO manufacturer VALUES(1, 'Virtusa', 'A04', 'bbsr');  
INSERT INTO manufacturer VALUES(4, 'Virtusa', 'A05', 'bbsr');
```

```
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 color) include table inside
content section**

```
<!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>ABC</title>
  </head>
  <body>
    <header style="margin-top: 50px; display: flex">
      
      <h1 style="font-size: 60px; margin-left: 450px; background-color:
green">ABC Products</h1>
    </header>
    <main style="display: flex; margin-top: 100px">
      <div style="flex: 1; background-color: skyblue">
        <ul style="list-style-type: none; margin: 50px">
          <li style="padding: 3px"><a href="">Link 1</a></li>
          <li style="padding: 3px"><a href="">Link 2</a></li>
          <li style="padding: 3px"><a href="">Link 3</a></li>
          <li style="padding: 3px"><a href="">Link 4</a></li>
          <li style="padding: 3px"><a href="">Link 5</a></li>
          <li style="padding: 3px"><a href="">Link 6</a></li>
        </ul>
      </div>
      <div style="flex: 1; margin-right: 200px; background-color: rgb(253,
255, 110)"> <table style="width:100%; text-align: center; margin: 50px">
        <thead>
          <tr>
            <th>product_id</th>
```

```
<th>product_name</th>
<th>price</th>
<th>location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Product 1</td>
<td>100</td>
<td>Bhubaneswar</td>
</tr>
<tr>
<td>2</td>
<td>Product 2</td>
<td>110</td>
<td>Bhubaneswar</td>
</tr>
<tr>
<td>3</td>
<td>Product 3</td>
<td>120</td>
<td>Bhubaneswar</td>
</tr>
<tr>
<td>4</td>
<td>Product 4</td>
<td>130</td>
<td>Bhubaneswar</td>
</tr>
<tr>
<td>5</td>
<td>Product 5</td>
<td>140</td>
<td>Bhubaneswar</td>
</tr>
</tbody>
```

```
<tfoot>
  <tr>
    <td>6</td>
    <td>Product 6</td>
    <td>150</td>
    <td>Bhubaneswar</td>
  </tr>
</tfoot>
</table></div>
</main>
<footer style="text-align: center; margin-top: 100px; background-color:
green">All rights reserved. ABC Products</footer>
</body>
</html>
```