```java
1. package javaWinterSemester;
import java.util.*;

public class loops {
    public static void main(String[] args) {
        System.out.println("enter an array");
        Scanner input=new Scanner(System.in);
        int a[]=new int[5];
        for(int i=0;i<5;i++) {
            a[i]=input.nextInt();
        }
        for(int k:a) {
            System.out.println(k);

        }

    }
}


2. package javaWinterSemester;
import java.util.*;

public class loops {
    public static void main(String[] args) {
        System.out.println("enter an array");
        Scanner input=new Scanner(System.in);
        int a[]=new int[5];
        int search=0;
        boolean found=false;
        for(int i=0;i<5;i++) {
            a[i]=input.nextInt();
        }
        System.out.println("enter the search element");
        search=input.nextInt();
        for(int i=0;i<5;i++) {
            if(a[i]==search) {
                found=true;
                System.out.println("it is found");
                break;
            }
        }
        if(!found) {
            System.out.println("it is not found");

        }

    }
}
```

```java
3. package javaWinterSemester;
import java.util.*;

public class loops {
    public static void main(String[] args) {
        System.out.println("enter an array");
        Scanner input=new Scanner(System.in);
        int a[]=new int[5];
        int temp=0;

        for(int i=0;i<5;i++) {
            a[i]=input.nextInt();
        }
        for(int i=0;i<a.length-1;i++) {
            for(int j=0;j<a.length-1-i;j++) {
                if(a[j]>a[j+1]) {
                temp=a[j];
                a[j]=a[j+1];
                a[j+1]=temp;
                }
            }
        }
        for(int k:a) {
            System.out.println(k);
        }

    }
}


4. package javaWinterSemester;
import java.util.*;

public class loops {
    public static void main(String[] args) {
        System.out.println("enter an array");
        Scanner input=new Scanner(System.in);
        int a[]=new int[5];
        int j=0;

        for(int i=0;i<5;i++) {
            a[i]=input.nextInt();
        }
        for(int i=0;i<a.length-1;i++) {
            if(a[i]!=a[i+1]) {
                    j++;
                    a[j]=a[i+1];
```

```
            }
        }
        for(int i=0;i<=j;i++) {
            System.out.println(a[i]);
        }


    }
}



5. package javaWinterSemester;
import java.util.*;

public class loops {
    public static void main(String[] args) {
        System.out.println("enter an array");
        Scanner input=new Scanner(System.in);
        int a[]=new int[5];

        int temp=0;

        for(int i=0;i<5;i++) {
            a[i]=input.nextInt();
        }
        for(int i=0;i<a.length/2;i++) {
            temp=a[i];
            a[i]=a[a.length-1-i];
            a[a.length-1-i]=temp;
        }
        for(int k:a) {
            System.out.println(k);
        }


    }
}



SUM OF ALL ELEMENTS IN 2D ARRAY


package javaWinterSemester;
import java.util.*;

public class loops {
    public static void main(String[] args) {
        System.out.println("enter an array");
```

```java
            Scanner input=new Scanner(System.in);
            int m[][]=new int[2][2];
            for(int i=0;i<m.length;i++) {
                for(int j=0;j<m[i].length;j++) {
                    m[i][j]=input.nextInt();
                }
            }
            int sum=0;
            System.out.println("display the sum");
            for(int k[]:m) {
                for(int s:k) {
                    sum+=s;

                }

            }
            System.out.println(sum);

    }
}




7. package javaWinterSemester;
import java.util.*;

public class loops {
    public static void main(String[] args) {
            System.out.println("enter an array");
            Scanner input=new Scanner(System.in);
            int m[][]=new int[2][2];
            int sum=0;
            for(int i=0;i<m.length;i++) {
                for(int j=0;j<m[i].length;j++) {
                    m[i][j]=input.nextInt();
                    sum+=m[i][j];
                }
            }
            System.out.println(sum);


    }
}




8.IDENTITY MATRIX OR NOT

package javaWinterSemester;
```

```java
import java.util.*;

public class loops {
    public static void main(String[] args) {
        System.out.println("enter an array");
        Scanner input=new Scanner(System.in);
        int m[][]=new int[2][2];
        int sum=0;
        boolean identity=true;
        for(int i=0;i<m.length;i++) {
            for(int j=0;j<m[i].length;j++) {
                m[i][j]=input.nextInt();

            }
        }
        for(int i=0;i<m.length;i++) {
            for(int j=0;j<m[i].length;j++) {
                if((i==j && m[i][j]!=1)||(i!=j &&
m[i][j]!=0)){
                    identity=false;
                    System.out.println("not an identity");
                    break;
                }
            }
            if(!identity) {
                break;
            }
        }
        if(identity) {
            System.out.println("it is an identity");
        }



}
}



9.Transpose :

package javaWinterSemester;
import java.util.*;

public class loops {
    public static void main(String[] args) {
        System.out.println("enter an array");
        Scanner input=new Scanner(System.in);
        int m[][]=new int[3][3];
        int sum=0;
        boolean identity=true;
```

```java
            for(int i=0;i<m.length;i++) {
                for(int j=0;j<m[i].length;j++) {
                    m[i][j]=input.nextInt();

                }
            }
            for(int k[]:m) {
                for(int s:k) {
                    System.out.print(s + " ");
                }
                System.out.println();
            }
            System.out.println("matrix after the transpose");
            for(int i=0;i<m[i].length;i++) {
                for(int j=0;j<m.length;j++) {
                    System.out.print(m[j][i]+" ");

                }
                System.out.println();
            }

    }
}
```

SUM OF MATRICES:

```java
package javaWinterSemester;
import java.util.*;

public class loops {
    public static void main(String[] args) {
        System.out.println("enter an array");
        Scanner input=new Scanner(System.in);
        int m[][]=new int[3][3];
        int a[][]=new int[3][3];
        int sum[][]=new int[3][3];



        for(int i=0;i<m.length;i++) {
            for(int j=0;j<m[i].length;j++) {
                m[i][j]=input.nextInt();

            }
        }
        for(int i=0;i<m.length;i++) {
            for(int j=0;j<m[i].length;j++) {
                a[i][j]=input.nextInt();
```

```java
            }
        }


        System.out.println("The sum is");
        for(int i=0;i<m.length;i++) {
            for(int j=0;j<m[i].length;j++) {
                sum[i][j]=m[i][j]+a[i][j];
                System.out.println(sum[i][j]);

            }

        }


    }
}
```