```java
/*
1. Date and Time Converter
Accept date and time from user. You are required to write a
Java program to convert
dates and times between different formats.
The program should be able to convert dates between the
following formats:
    a. dd/mm/yyyy (e.g., 31/12/2022)
    b. mm/dd/yyyy (e.g., 12/31/2022)
    c. yyyy/mm/dd (e.g., 2022/12/31)
The program should be able to convert times between the
following formats:
    a. hh:mm:ss (e.g., 23:59:59)
    b. hh:mm:ss a (e.g., 11:59:59 PM)
    c. hh:mm (e.g., 23:59)
The program should be able to convert dates and times between
the following
formats:
    a. dd/mm/yyyy hh:mm:ss (e.g., 31/12/2022 23:59:59)
    b. mm/dd/yyyy hh:mm:ss a (e.g., 12/31/2022 11:59:59 PM)
    c. yyyy/mm/dd hh:mm (e.g., 2022/12/31 23:59)
*/
package com.main;

import java.text.SimpleDateFormat;
import java.util.Date;
public class Q1
{

    public static void main(String[] args)
    {
        //A.
        System.out.println(new
SimpleDateFormat("dd/MM/yyyy").format(new Date()));
//17/03/2024
        System.out.println(new
SimpleDateFormat("MM/dd/yyyy").format(new Date()));
//03/17/2024
        System.out.println(new
SimpleDateFormat("yyyy/MM/dd").format(new Date()));
//2024/03/17

        //B.
        System.out.println(new
SimpleDateFormat("hh:mm:ss").format(new Date())); //10:29:47
```

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        System.out.println(new SimpleDateFormat("hh:mm:ss a").format(new Date())); //10:29:47 pm
        System.out.println(new SimpleDateFormat("hh:mm").format(new Date())); //10:29

        //C.
        System.out.println(new SimpleDateFormat("dd/MM/yyyy hh:mm:ss").format(new Date())); //17/03/2024 11:04:10
        System.out.println(new SimpleDateFormat("hh:mm:ss hh:mm:ss a").format(new Date())); //11:04:46 11:04:46 pm
        System.out.println(new SimpleDateFormat("yyyy/mm/dd hh:mm").format(new Date())); //2024/04/17 11:04


    }

}


//3. Write a Java program to find all pairs of elements in an
//   integer array whose sum is equal to a given number?




package com.assign7;

public class Q3
{

    private static void pairSum(int[] arr, int n)
    {
        System.out.println("Sum of all pairs of elements in an integer array :    ");
        for(int i=0;i<arr.length;i++)
        {
            for(int j=i+1;j<arr.length;j++)
            {
                if(arr[i]+arr[j] == n)
                {
                    System.out.println(arr[i]+" + "+arr[j]+" =   "+n);
                }
            }
        }

    }
```

```java
    public static void main(String[] args)
    {
        int arr[] = {2, 7, 4, -5, 11, 5, 20};

        pairSum(arr,15);
        //pairSum(arr,9);


    }

}
/*

    pairSum(arr,15);

    Sum of all pairs of elements in an integer array    :
    4 + 11   =   15
    -5 + 20   =   15


    ----------------------------------------------------------
    ----------
    pairSum(arr,9);

    Sum of all pairs of elements in an integer array    :
    2 + 7   =   9
    4 + 5   =   9
*/




//4. Write a program to reverse an Array in java .


package com.assign7;

public class Q4
{
    private static void reverseArray(int[] arr, int n)
    {
        System.out.println("Reverse Array Elements are : ");
        for(int i=n;i>=0;i--)
        {
            System.out.print(arr[i]+" ");
        }

    }

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

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    {
        int[] arr = {10,20,30,40,50};
        System.out.println("Array Elements are : ");
        for(int i : arr)
            System.out.print(i+" ");
        System.out.println(" ");

        reverseArray(arr,arr.length-1);

    }

}

//5. Find out smallest and largest number in a given Array?

package com.assign7;

import java.util.Arrays;

public class Q5
{
    public static void main(String[] args)
    {
        int[] arr = {5,22,86,15,1,3,5,4,26};

        int smallerElement = arr[0];
        int largerElement = arr[0];

        for(int i=1;i<arr.length;i++)
        {
            if(arr[i] > largerElement)
                largerElement = arr[i];
            else if(arr[i] < smallerElement)
                smallerElement = arr[i];
        }

        System.out.println("Smaller Element : "+smallerElement);
        System.out.println("Larger Element : "+largerElement);

    }
}
/*
Smaller Element : 1
Larger Element : 86
*/
```

```java
/*
6) .Print the third-largest number in an array without sorting
it
    Input: [ 24,54,31,16,82,45,67]
    Output: 54 (82 and 67 are the largest and second-largest)
    package com.assign7;
*/
package com.assign7;

import java.util.Arrays;

public class Q6
{
    private static int thirdLargestElement(int[] arr)
    {
        int n = arr.length;

        if(n < 3)
        {
            System.out.println("Array size must be more than
3");

            return 0;
        }
        else
        {
            Arrays.sort(arr);
            return arr[n - 3];
        }

    }

    public static void main(String[] args)
    {
        int[] arr = {24,54,31,16,82,45,67};
        System.out.println("Third Largest element is :
"+thirdLargestElement(arr));



    }


}
/*
    Third Largest element is : 54
*/
```

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```java
/*
Write a program to merge two arrays of integers by reading one
number at a time from each array
until  one of the array is exhausted, and then concatenating
the remaining numbers.
    Input: [23,60,94,3,102] and [42,16,74]
    Output: [23,42,60,16,94,74,3,102]
*/
package com.assign7;

import java.util.Arrays;

public class Q7
{

    private static void mergeArray(int[] arr1, int[] arr2,int
n,int m, int[] arr3) //called method
    {
        int i=0,j=0,k=0;

        while(i<n && j<m)
        {
            arr3[k++] = arr1[i++];
            arr3[k++] = arr2[j++];
        }
        while(i < n) //to add remaining elements of arr1
inside merge array
        {
            arr3[k++] = arr1[i++];
        }
        while(j < m) //to add remaining elements of arr2
inside merge array
        {
            arr3[k++] = arr1[j++];
        }
    }

    public static void main(String[] args)
    {
        int arr1[] = {23,60,94,3,102};
        int n = arr1.length;

        int arr2[] = {42,16,74};
        int m = arr2.length;
```

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        int[] arr3 = new int[n + m];

        mergeArray(arr1,arr2,n, m, arr3); //calling method

        System.out.println("Merge array : ");

        System.out.print(Arrays.toString(arr3)+" ");



    }


}
/*
    Merge array :
       [23, 42, 60, 16, 94, 74, 3, 102]
*/




        mergeArray(arr1,arr2,n, m, arr3); //calling method
```