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package test;

import java.util.Scanner;

public class DateAndTimeTester {

    public void run() {

        Scanner keyboard = new Scanner(System.in);
        System.out.println("enter date and time in the format MM/DD hh:mm is
Month / Day Hour : Minute respectively.");
        String u_input= keyboard.nextLine();

        if(isValid(u_input)) // IF all parameters are passed result is true
else false
            System.out.println("The entered date and time format is valid");
        else
            System.out.println("The entered date and time format is not
valid");
    }

    public boolean isValid(String u_input) {

        String[] arr = u_input.split(" "); // splits array when " "(space) is
detected
        String datearr=arr[0];
        String timearr=arr[1];
        String[] arr1 = datearr.split("/"); // splits array when / is detected
        String MONTH=arr1[0];
        String DAY=arr1[1];
        String[] arr2 = timearr.split(":"); // splits array when : is detected
        String HOUR=arr2[0];
        String MIN=arr2[1];

        if (MONTH.length()==1) // checks if the value is entered in single digit
format or double digit
            MONTH="0"+MONTH; // converts single digit value to double digit by
adding 0 to MSB
        if (DAY.length()==1)
            DAY="0"+DAY;
        if (HOUR.length()==1)
            HOUR="0"+HOUR;
        if (MIN.length()==1)
            MIN="0"+MIN;

        u_input= MONTH+"/"+DAY+" "+HOUR+": "+MIN; // Concatenates the new double
digit value into single user input

        if (isValidDate(u_input) && isValidTime(u_input)) // returns true if
both of date and time format is correct
            return true;
        else
            return false;
    }
}

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    public boolean isValidDate(String Date) {
        int month= getMonth(Date);
        int day= getDay(Date);
        if ((month>0 && month<=12) && (day>0 && day<=31)) // checks if month is
within the range of 12 and day is within range of 31
        {
            if((month==2 && day >29))// checks if February has 29 days or not
                return false;

            else
                return true;
        }
        else
            return false;
    }

    public int getMonth(String Month) {
        String Month2=Month.substring(0,2);// takes first two characters for
month
        int M=Integer.parseInt(Month2);// casting string to integer
        return M;// returning integer value
    }
    public int getDay(String Day) {
        String Day2=Day.substring(3,5);// takes fourth and fifth character for
day
        int D=Integer.parseInt(Day2); // casting string to integer
        return D; // returning integer value
    }

    public boolean isValidTime(String Time) {
        int hour=getHour(Time);
        int min=getMin(Time);
        if ((hour>0 && hour<=12) && (min>=0 && min<=59))// checks if hour is
within the range of 12 and min is within the range of 60
            return true;
        else
            return false;
    }
    public int getHour(String Hour) {
        String Hour2=Hour.substring(6,8);// takes seventh and eighth character
for hour
        int H=Integer.parseInt(Hour2); // casting string to integer
        return H;// returning integer value
    }
    public int getMin(String Min) {
        String Min2=Min.substring(9,11);// takes tenth and eleventh character
for min
        int M=Integer.parseInt(Min2); // casting string to integer
        return M; // returning integer value
    }
}

```