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ST BENEDICT'S

SUBJECT

**INFORMATION
TECHNOLOGY**

PAPER

PRACTICAL

GRADE

11

DATE

JULY 2019

EXAMINER

D KENCH

MARKS

120

NAME

MODERATOR

TOOTH FAIRY

CLASS

DURATION

**3 HOUR + 30 MINS
PRINTING**

Question	1	2	3	4	5	6	7	Total
Possible Marks								
Actual Marks								

QUESTION 1

1.1 (4)

```
SELECT *
FROM tblresults✓
ORDER BY✓ fDate, ✓ FTime✓
```

1.2 (6)

```
SELECT DISTINCT✓ FullName ✓
FROM tblresults
WHERE FTime > '01:00:00'✓ AND✓ (Category = "Master" OR✓ Category =
"Grand Master")✓
```

1.3 (5)

```
SELECT COUNT(*)✓ AS NumJuniors✓
FROM tblresults
WHERE Category = "Junior"✓ AND✓ fDate = '2019-06-22'✓
```

1.4 (5)

```
UPDATE✓ tblresults
SET code = CONCAT✓ ('0',code) ✓
WHERE length(code) ✓ = 4✓
```

1.5 (5)

```
SELECT Category, MIN(FTime) ✓ AS WinningTimes
FROM tblresults
GROUP BY✓ Category✓
ORDER BY✓ WinningTimes✓
```

1.6 (7)

```
SELECT FDate, AVG✓ (hour(FTime)*3600✓ + MINUTE(FTime)*60✓ +
SECOND(FTime) ✓) AS AveTimeInSecs✓
FROM tblresults
GROUP✓ BY FDate✓
```

1.7 (5)

```
SELECT COUNT(*)✓ As NumCat
FROM tblResults
GROUP BY✓ CATEGORY✓
HAVING NumCat✓ > 5✓
```

1.8 (3)

```
INSERT INTO parkrun.tblresults (`FDate`, `Code`, `FullName`, `FTime`,
`Category`) ✓
VALUES (now()✓, '9999E', 'Fred Smith', '00:18:18', 'Junior'); ✓
```

QUESTION 2

29 MARKS

//2.1 [4]

```
public class Result✓
{
    private String code;✓
    private String name;✓
    private String time;✓
    private int timeInSecs
```

//2.2 [2]

```
public Result(String c, String n, String t)✓
{
    code = c;
    name = n;
    time = t;✓
```

//2.3 [1]

```
timeInSecs = calcTimeInSecs();✓
}
```

//2.3 [7]

```
public int✓ calcTimeInSecs()✓
{
    String timeArr [] = time.split(":");✓
    int h = Integer.parseInt(timeArr[0])*3600;✓
    int m = Integer.parseInt(timeArr[1])*60;✓
    int s = Integer.parseInt(timeArr[2]);✓
    return h + m + s;✓
}
```

//2.4 [2]

```
public int getTimeInSecs()✓
{
    return timeInSecs;
}

public void setTimeInSecs(int t) ✓
{
    timeInSecs = t;
}
```

//2.5 [9]

```
public String✓ getCategory()✓
{
    char cat = code.charAt✓ (code.length()-1);✓
    int c = (int) cat - 65; ✓
    String codeArr [] =
{"Junior","Senior","Veteran","Master","Grand Master"};✓✓
    return codeArr✓ [c✓];
}
```

//2.6 [4]

```
@Override
public String toString()✓
{
    return ✓name + "\t" + code + "\t" + time✓ + "\t" + timeInSecs
+ "\t" + getCategory();✓
```

}

}

QUESTION 3 AND 5**27 + 14 MARKS**

```
public class ResultArray
```

```
{
```

```
//3.1 [4]
```

```
private Result[] rArr = new Result[100];
```

```
private int size = 0;
```

```
//3.2 [10]
```

```
public ResultArray()
```

```
{
```

```
    String line;
```

```
    try
```

```
    {
```

```
        Scanner scFile = new Scanner(new  
        FileReader("Results.txt"));
```

```
        while (scFile.hasNext())
```

```
        {
```

```
            line = scFile.nextLine();
```

```
            String[] temp = line.split("#");
```

```
            rArr[size] = new Result(temp[0], temp[1],  
temp[2]);
```

```
            size++;
```

```
        }
```

```
    } catch (IOException e)
```

```
    {
```

```
        System.out.println("File not found");
```

```
    }
```

```
}
```

```
//3.3 [5]
```

```
public String toString()
```

```
{
```

```
    String temp = "";
```

```
    for (int i = 0; i < size; i++)
```

```
    {
```

```
        temp = temp + rArr[i].toString() + "\n";
```

```
    }
```

```
    return temp;
```

```
}
```

```
//3.4 [8]
```

```
public void sort()
```

```
{
```

```
    for (int i = 0; i < size - 1; i++)
```

```
    {
```

```
        for (int j = i+1; j < size; j++)
```

```

        {
            if (rArr[i].getTimeInSecs() >
rArr[j].getTimeInSecs()) ✓✓
            {
                Result temp = rArr[i]; ✓✓
                rArr[i] = rArr[j];
                rArr[j] = temp;
            }
        }
    }
}
//5.1 [6]
public String search (String c) ✓
{
    String temp = "";
    for (int i = 0; i < size; i++) ✓
    {
        if (rArr[i].getCategory().equals(c)) ✓
        {
            temp = temp + rArr[i] + "\n"; ✓
        }
    }
    return temp; ✓
}
//5.2 [8]
public void ✓ changeTimes()
{
    for (int i = 0; i < size; i++) ✓
    {
        int t = rArr[i].getTimeInSecs(); ✓
        String cat = rArr[i].getCategory(); ✓
        if (cat.equals("Grand Master")) ✓
        {
            t = t - 600; ✓
            rArr[i]. ✓ setTimeInSecs(t); ✓
        }
    }
}

```

QUESTION 4 AND 6

5 + 5 MARKS

```
//4.1 [1]
public class ResultUI✓
{
    public static void main(String[] args)
    {
//4.2 [1]
        ResultArray ra = new ResultArray();✓
//4.3 [1]
        System.out.println(ra); ✓
//4.4 [2]
        ra.sort();✓
        System.out.println("\nAfter Sort\n" + ra); ✓
//6.1 [2]
        System.out.println("A list of all Seniors\n"✓ +
ra.search("Senior"));✓
//6.2 [3]
        ra.changeTimes();✓
        ra.sort();✓
        System.out.println("\nAfter Adjustment\n" + ra); ✓
    }
}
```