Q1. There are 50 dice. 20 of them are facing 4. Remaining 30 are facing 3. You can't see which dice is facing what number. Write pseudo code to separate these 50 dice into 2 groups, so that both groups have the same number of 4's.

Solution:

//the sum of the opposite sides of a dice =7. So, if back=3 then face of the dice=4.

```
function group(back[50]: back of the dices)
        declare cluster1[40], cluster2[40]
        set count=0,i=0,j=0;
        for i= 0 to i<n
                if count<10 then
                        set cluster1[i]=back[i]
                        if back[i]=3
                                increment count
                        end if
                else
                        set cluster2[j]=back[i]
                        increment j
                end if
        increment i
        end for
end
```

Q2. A comma separated file(csv) has 5 columns and 10 rows. Write shell commands to extract the value of 3rd column 5th row and output the result into a text file.

awk –F , 'FNR == 5 {print $3}' Sample.csv > Result.txt

```
shk@unika:~/Downloads$ awk -F , 'FNR == 5 {print $3}' Sample.csv > Result.txt
shk@unika:~/Downloads$
```

Fig1: shell command

Fig2: Sample.csv

Fig3: Result.txt

Q3. Create a React Native app to show weather for the current week. You can use any open api available for fetching weather data.

// I used api.weatherunlocked.com, this site did not have Nepal's weather so I used London's latitude and longitude

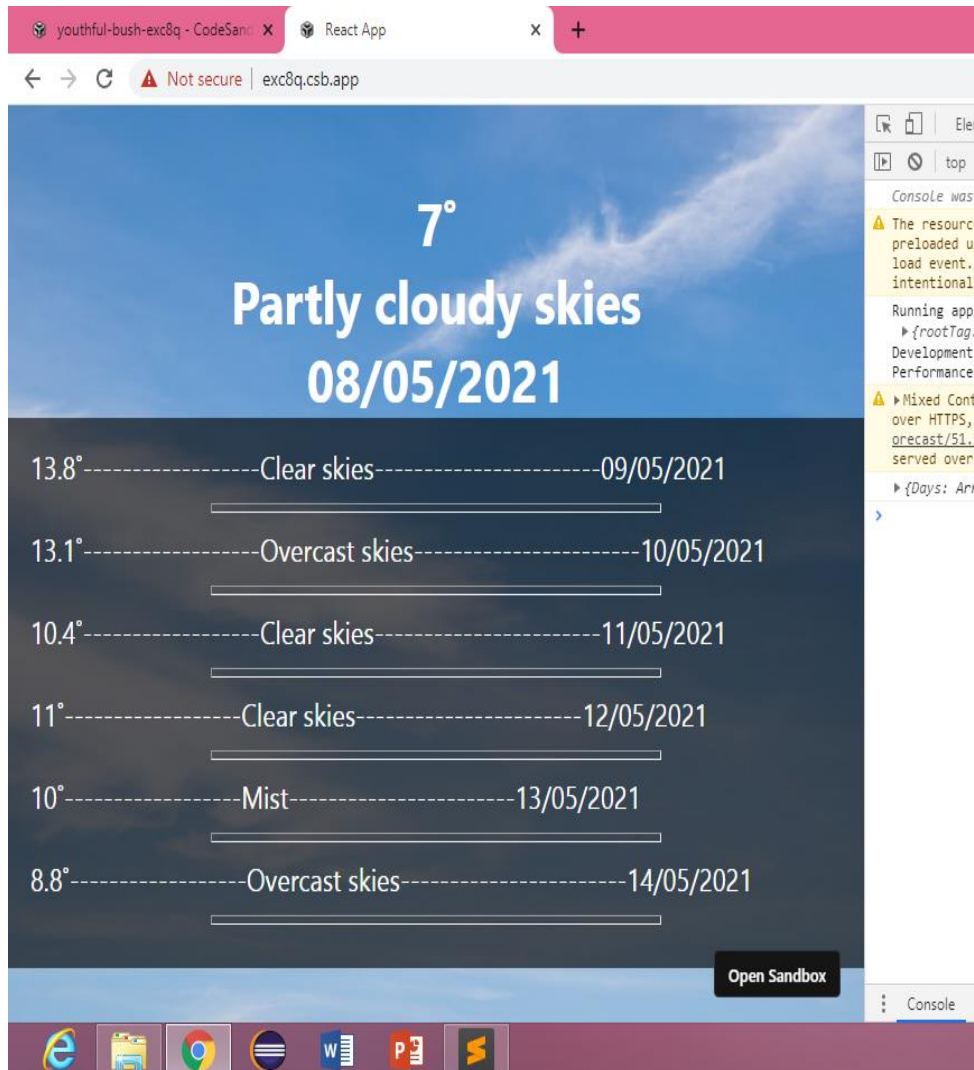The code for this is in the folder.

Screenshots:

Fig4:Output

▼ Object
  ▼ Days: Array(7)
    ▼ 0:
      ▼ Timeframes: Array(8)
        ▶ 0: {date: "08/05/2021", time: 0, utcdate: "08/05/2021", utctime: 0, wx_desc: "Partly cloudy skies", …}
        ▶ 1: {date: "08/05/2021", time: 300, utcdate: "08/05/2021", utctime: 300, wx_desc: "Overcast skies", …}
        ▶ 2: {date: "08/05/2021", time: 600, utcdate: "08/05/2021", utctime: 600, wx_desc: "Moderate rain", …}
        ▶ 3: {date: "08/05/2021", time: 900, utcdate: "08/05/2021", utctime: 900, wx_desc: "Moderate rain", …}
        ▶ 4: {date: "08/05/2021", time: 1200, utcdate: "08/05/2021", utctime: 1200, wx_desc: "Light drizzle", …}
        ▶ 5: {date: "08/05/2021", time: 1500, utcdate: "08/05/2021", utctime: 1500, wx_desc: "Overcast skies", …}
        ▶ 6: {date: "08/05/2021", time: 1800, utcdate: "08/05/2021", utctime: 1800, wx_desc: "Sunny skies", …}
        ▶ 7: {date: "08/05/2021", time: 2100, utcdate: "08/05/2021", utctime: 2100, wx_desc: "Clear skies", …}
          length: 8
        ▶ __proto__: Array(0)
        date: "08/05/2021"
        humid_max_pct: 97
        humid_min_pct: 62
        moonrise_time: "04:39"
        moonset_time: "17:00"
        precip_total_in: 0.4
        precip_total_mm: 9.1
        prob_precip_pct: 94
        rain_total_in: 3
        rain_total_mm: 9
        slp_max_in: 30.04
        slp_max_mb: 1014.4
        slp_min_in: 29.67
        slp_min_mb: 1002
        snow_total_in: 0
        snow_total_mm: 0
        sunrise_time: "05:19"
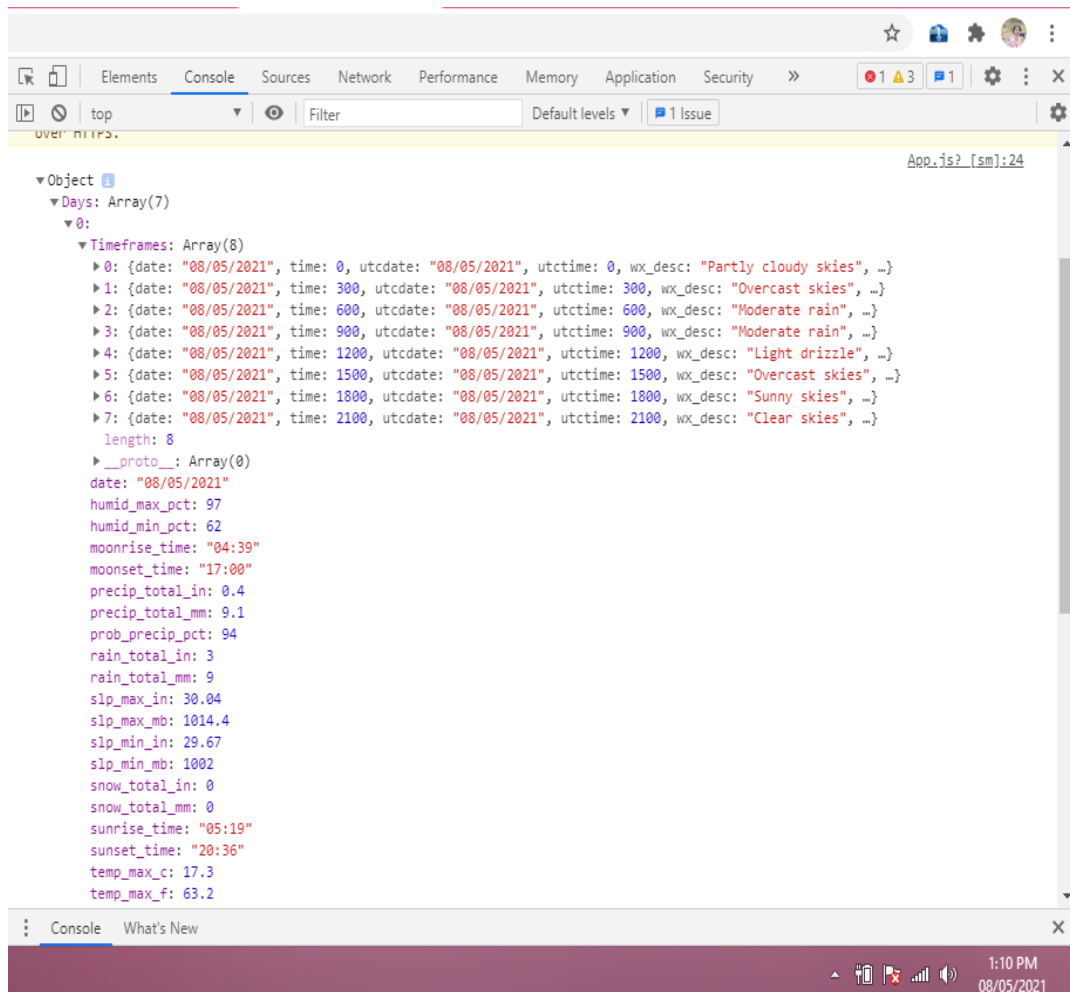   sunset_time: "20:36"
        temp_max_c: 17.3
        temp_max_f: 63.2

Fig: json fetched from api