COEN 178 Intro to Database Systems Winter 2021

Assign 1 (50 pts) Due: 16th Feb (10 PM)

Create a table called **TimeSpent** to hold the time spent in hours by **date** and activity. The categories for activities are **work,commute ,meals, exercise,misc**. **Note:** You are free to choose the activity categories.

See the example table below.

TimeSpent

CDATE	work	commute	meals	exercise	misc
21-Jan-2021	8	1	2	1	1
22-Jan-2021	6	0	1	1	1
23-Jan-2021	9	0	1	0	0

Note: You must use Date as the datatype for CDATE.

Insert some data of your choice into the **TimeSpent** table.

Example:

```
insert into TimeSpent values ('21-Jan-21',8,1,2,1,1);
```

Hint: The standard Oracle date format is `DD-MON-YY, as shown above.`

Note: Questions 1,2 and 3 use TimeSpent table as the input table.

Question 1 (10 pts)

Write a PLSQL function called **timeSpentByDate()** to calculate the total time (for all activities) spent for a single date, where the date is passed as a parameter.

Example:

```
Create or Replace Function timeSpentByDate(v_date In Date)Return Number IS

--- Complete the function
```

Test your function with input values of your choice.

Question 2 (15 pts)

Write a PLSQL **function** called **timeSpentBetweenDatesOn()** which takes three parameters, two of type Date and one of type String to represent activity (work, commute etc) and returns the total time spent for all the days between the two dates (both dates inclusive), on that specific activity. See the signature of the function below:

```
Create or Replace Function timeSpentBetweenDatesOn(v_fromdate In Date, v_toDate In Date,activity in VARCHAR)Return Number IS

--- Complete this function
```

Question 3 (25 pts)

a) Create a table called **Overtime** with columns *on_date*(DATE), *overtime_hrs (*NUMBER)

b) Write a PLSQL Trigger called **checkOverTime** that checks the hours entered for **work** activity in **TimeSpent** table. The trigger checks if the hours entered for **work** column is greater than 8, then the value entered – 8 (overtime hours) is entered into the **Overtime** table.

c) The trigger should be fired on inserting or updating the **work** column in **TimeSpent** table, when the value that is inserted (or updated) for this column is over 8 (worked more than 8 hrs). The trigger on firing should enter the current date (when the trigger is fired) and the value (the work hours – 8) in **TimeSpent** table.

Run the queries and capture the results in assign1_output.txt, using *spool*. Make sure that you show the data in the relevant tables, before and after firing the trigger.

What to submit:

Create a zip file with the following documents:

a) Your PLSQL code segments.

b) The data in your table (Do a Select * .. and capture it in the **spool file**)

c) The **spool file** that shows how you are calling the functions and output.

References:

https://www.oracletutorial.com/oracle-date-functions/

Date functions