Computer Assignment # 2

Due: Apr. 14, 2019, 23:59:59

In this assignment you are asked to implement function that can determine if input function(set of points) is

- convex/concave
- quasiconvex/quaziconcave
- superconvex/superconcave (i.e. log-convex, log-concave)

Declare function as
`function fcn_checker(x,y)`,
where `x,y` are input points.

For example:

```
x = linspace(-1,1,1e3);
y = x.^2;
fcn_checker(x,y);
```

Should produce following output:

```
convex : yes
concave : no
superconvex : no
superconcave : no
quasiconvex : yes
quasiconcave : no
```

Please, use file `in_data.mat` that will contain two variables `x,y`. `x(:,1),y(:,1)` corresponds to first function and `x(:,end),y(:,end)` correspond to last. You would not know, what exact form of the function is, only its points. For each of the functions determine convexity properties and write it to report.

Submission Policy

- In MATLAB, write function `fcn_checker` that determines convexity properties. Then write a main file in which you load `in_data.mat` and then call `fcn_checker` .
- Place all your scripts inside the folder called “codes”.
- Place all your answers about convexity of the set inside a report file (pdf or word).
- Put “codes” and report inside zip file called `ca2_xxxxxx.zip`, where `xxxxxx` is your student ID and submit it to e3.