# Lab Quiz 1 Marking Scheme

## Sidi Wu

## Commit and Push (1 Mark)

1. (1 mark) Commit and push your R code "mars_SFU_ID.R" to Sandbox folder in "SFUS-tat360Projects" repository by 5pm on Jan. 27 (0.5 marks for naming the file correctly, 0.5 marks for pushing the file to Sandbox folder)

## Shell implementation of MARS algorithm (9 Marks)

Create an R script called `mars.R` that includes the following functions.

1. (4 marks) Create a function called `mars()` that takes three arguments:

   i. an R formula,
   ii. a `data` argument,
   iii. a list called `control`.
      The body of the `mars()` function should call two functions called `fwd_stepwise()` and `bwd_stepwise()`.
      (0.5 marks for a correct function structure of `mars()`, 0.5 marks for each of the required input arguments, 1 mark for calling `fwd_stepwise()` in `mars()`, and 1 mark for calling `bwd_stepwise()` in mars with the output of `fwd_stepwise()` as its input (see step 3 for details))

2. (2 marks) Write empty `mars.control()`, `fwd_stepwise()` functions that each take no arguments and return an empty list.
   (1 mark for each empty function with correct structure and no input arguments)

3. (2 marks)`bwd_stepwise()` should take the output of `fwd_stepwise()` as input, and for now should return an empty list.
   (1 mark for a correct function structure of `bwd_stepwise()`, 1 mark for having an input argument)

4. (1 mark) Have your `mars()` function return the output of `bwd_stepwise()`.
   (1 mark for having the output of `bwd_stepwise()` as the output of `mars()`)