Stat 124: Introduction to Programming
Week 6-7 Assessment

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First Semester, AY2023-4

1 Task

In trios or duos, create an R script for the following problems. I'll allow groupings with members of the other class. Submit via UVLe, deadline on 6 Dec 2023, Wednesday 23:59. One submission will do for all the members of the trio or duo.

2 Instructions

1. Please include the following details at the start of your R script.

```
# Trio Member 1: Pajaron, Jose Mariecon
# Trio Member 2: <Last Name, First Name>
# Trio Member 3: <Last Name, First Name>
```

2. Please add section dividers to clearly separate answers to the questions, e.g.

```
#### Question number 1 -----
```

3. Simply type in the code in the R script. Add comments as you like.
4. Save the file with the following format: `STAT124_TASK6-7_SURNAMES.R`

	0%	25%	50%	75%	100%
Content	No evidence of awareness of the concept	Minimal evidence of awareness of the concept	No apparent point but with evidence of awareness of the concept	Apparent point made with sufficient awareness of the concept	Sharp answer to the question with evident awareness of the concept

3 Problems

1. Write 3 R programs that takes an integer input from the user between 1-7 (inclusive) and displays the corresponding name of the week. The program should be able to filter values not in the range and values which are not exact (e.g. 3.8, 0, 9). The first R program should utilize `if-else if-else` statements. The second R program should utilize the `switch()` function. The third R program should utilize the `case_when()` function. You may have to use the functions `is.integer()`, `is.numeric()`, `as.numeric()`, `as.integer()`, `message()`, `readline()`, or `cat()`. Use the following system:

Number	1	2	3	4	5	6	7
Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

   - Each program is worth ten (10) points, so this item has a total of thirty (30) points.
   - For each program, you may **not** do nested conditionals nor extra conditionals, there should only be one conditional statement. For example, for the first program, you may not use a `switch`, a `case_when`, nor more than one `if`, whether within, separate from, or covering it.
2. Write an R Program which iterates through the numbers 1 to 50. For multiples of two, print "Beep" instead of the number. For multiples of three, print "Boop" instead of the number. For numbers which are multiples of both 2 and 3, print "BeepBoop". Ten (10) points for this item.
3. Write an R Program printing the following pattern in the console: Ten (10) points for this.

```
## *
## **
## ***
## ****
## *****
## ******
## *****
## ****
## ***
## **
## *
```

4. Write an R program that accepts a word from the user and reverses it. An example is provided below. Twenty (20) points for this item. You may have to use the following functions:
   `readline()` allows you to input a string from the terminal.
   `nchar()` provides the number of characters of an input string.
   `substr()` provides a substring from the input string.
   `cat()` concatenates and prints
   `character()` creates a character vector.
   `help()` gives you the documentation of an input function, use this on the above functions.
   Restriction: You may not use the `rev()` function.
   For example, if I input `"Jose Mariecon"`, the program should output `"noceiraM esoJ"`.

```
## Input: Jose Mariecon
## Output: noceiraM esoJ
```

End of Document.