Challenge-6

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Questions

Question-1: Countdown Blastoff (While Loop)

Create a program that simulates a rocket launch countdown using a while loop. Start from 10 and countdown to "Blastoff!" with a one-second delay between each countdown number. Print a message when the rocket launches.

Hint: You may want to use `cat` command to print the countdown and `Sys.sleep` for incorporating the delay

Output preview: Here is how the countdown could look like

Solutions:

```r
# Enter code here
countdown_to_blastoff <- function() {
  countdown <- 10

  while (countdown >= 1) {
    cat("Countdown:", countdown, "\n")
    Sys.sleep(1)
    countdown <- countdown - 1
  }

  cat("Blastoff!\n")
  knitr::include_graphics("/Users/zixinwong/Downloads/blastoff.webp")
}

countdown_to_blastoff()
```

```
## Countdown: 10
## Countdown: 9
## Countdown: 8
## Countdown: 7
## Countdown: 6
## Countdown: 5
## Countdown: 4
## Countdown: 3
## Countdown: 2
## Countdown: 1
## Blastoff!
```


Question-2: Word Reverser (for Loop)

Develop a program that takes a user-entered word and uses a while loop to print the word's characters in reverse order. For example, if the user enters "hello," the program should print "olleh."

Hint: You may want to use `substr` command to access each character of the input word, and `paste` command to join the reversed letters one at a time

Solutions:

```r
# Enter code here
reverse_word <- function(input_word) {
  reversed_word <- ""
  i <- nchar(input_word)

  while (i > 0) {
    reversed_word <- paste(reversed_word, substr(input_word, i, i), sep = "")
    i <- i - 1
  }

  cat("Reversed word:", reversed_word, "\n")
}

user_input <- "Butterfly"

reverse_word(user_input)
```

```
## Reversed word: ylfrettuB
```