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:

```
# Enter code here
rocket_countdown <- function() {
i <- 10
while( i > 0) {
  print(i)
  i <- i - 1
  Sys.sleep(1)
}
cat("Blastoff!\n")
cat("Rocket launched!\n")
knitr::include_graphics("launch.jpg") # how to adjust the size of the image
}

rocket_countdown()
```

```
## [1] 10
## [1] 9
## [1] 8
## [1] 7
## [1] 6
## [1] 5
## [1] 4
## [1] 3
## [1] 2
## [1] 1
## Blastoff!
## Rocket launched!
```

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:

```
# Enter code here
# Get user input
user_input <- readline(prompt = "Enter a word: ")
```

```
## Enter a word:
```

```
# Initialize an index to the last character of the word
index <- nchar(user_input)

# Initialize an empty string to store the reversed word
reversed_word <- ""

# Use a while loop to reverse the characters
while (index > 0) {
  reversed_word <- paste(reversed_word, substr(user_input, index, index), sep = "")
  index <- index - 1
}

# Print the reversed word
cat("Reversed word:", reversed_word, "\n")
```

```
## Reversed word:
```