

Challenge-6

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2023-09-17

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_launch_timer <- 10
while (rocket_launch_timer >= 0) {
  cat(rocket_launch_timer, "\n")
  if (rocket_launch_timer == 0) {
    cat("Blastoff!\n")
  }
  Sys.sleep(1)
  rocket_launch_timer <- rocket_launch_timer - 1
}
```

```
## 10
## 9
## 8
## 7
## 6
## 5
## 4
## 3
## 2
## 1
## 0
## 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:

```
# Enter code here

word <- "hello"

word_length <- nchar(word)
reversed_word <- ""
while (word_length > 0) {
  current_char <- substr(word, word_length, word_length)
  reversed_word <- paste0(reversed_word, current_char)
  word_length <- word_length - 1
}

print(reversed_word)
```

```
## [1] "olleh"
```