

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:

```
countdown <- 10

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

## 10 ...9 ...8 ...7 ...6 ...5 ...4 ...3 ...2 ...1 ...

cat("Blastoff!\n")

## 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:

```
word <- "Hello"

reversed_word <- " "
index <- nchar(word)

while (index > 0) {
```

```
character <- substr(word, index, index)
reversed_word <- paste(reversed_word, character, sep = "")
index <- index - 1
}

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

```
## Reversed word: olleH
```