

# 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
countdown <- function(seconds) {
  for (i in seconds:1) {
    cat(i, "\n")
    Sys.sleep(1)
  }
  cat("Blastoff!\n")
}

countdown(10)
```

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

```
# Enter code here
reverseWord <- function(word) {
  reversed <- ""
  index <- nchar(word)

  while (index > 0) {
    reversed <- paste(reversed, substr(word, index, index), sep = "")
    index <- index - 1
  }

  return(reversed)
}

word <- readline("Enter a word: ")
```

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

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

```
## Reversed word:
```