

Challenge-6

Esther Kho Yining

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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

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

Blastoff!

Solutions:

```
# Enter code here
countdown <- 10

while (countdown > 0){
  cat("Countdown", countdown, "\n")
  Sys.sleep(1)
  countdown <- countdown - 1
}
```

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

```
# Enter code here
word <- readline(prompt = 'Enter a word:')
```

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

```
reverse_word <- ""

i <- nchar(word)
while (i > 0) {
  letter <- substr(word, i, i)
  reverse_word <- paste (reverse_word, letter, sep = "")
  i <- i - 1
}

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

```
## Reversed word:
```

```
knitr::include_graphics("/Users/EstherKho/Documents/Y2S2/NM2207/Week 6/Challenge-6/reverse_word.png")
```

```
Enter a word: Hello
> reverse_word <- ""
>
> i <- nchar(word)
> while (i > 0) {
+   letter <- substr(word, i, i)
+   reverse_word <- paste (reverse_word, letter, sep = "")
+   i <- i - 1
+ }
>
> cat("Reversed word:", reverse_word, "\n")
Reversed word: olleH
~|
```