Challenge-6

Jing Ying

2023-09-18

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.

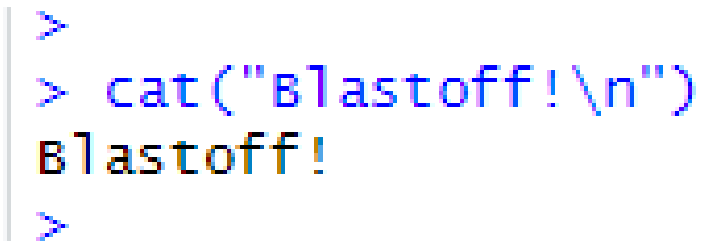
Hint: You may want to use `cat` command to print the countdown and `Sys.sleep` for incorporating the delay

Output preview: Here is how the countdown could look like

```
knitr::include_graphics("C:/Users/yeojy/Pictures/COUNTDOWN.png")
```

```
>
> while (countdown > 0) {
+   cat("Countdown:", countdown, "\n")
+   Sys.sleep(1)  # Delay for 1 second
+   countdown <- countdown - 1
+ }
Countdown: 10
Countdown: 9
Countdown: 8
Countdown: 7
Countdown: 6
Countdown: 5
Countdown: 4
Countdown: 3
Countdown: 2
Countdown: 1
```

```
knitr::include_graphics("C:/Users/yeojy/Pictures/BLASTOFF.png")
```



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("C:/Users/yeojy/Pictures/breaddaerb.png")
```

```
>
> word <- readline(prompt = "Enter a word: ")
Enter a word: BREAD
> 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: DAERB
>
```