

# Module 2: Quiz

⚠ This is a preview of the published version of the quiz

Started: Mar 3 at 2:19pm

## Quiz Instructions

### Overview

This quiz will help you reflect on the important takeaways of this module's content. You have multiple attempts on this quiz prior to the deadline. This quiz is open book and intended to ensure that you are understanding the content of this module.

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### Instructions

Click the "Take the Quiz" button to begin. After answering all of the questions, please click Submit at the bottom of the page to submit your answers.

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### How you'll be graded

Each question is worth a certain amount of points, and you'll earn points for each correct response. To review or discuss any questions or answers in this quiz, please connect with your instructor.



Question 1 1 pts

RNA sequencing is technology that we can use to measure the relative amount of transcripts being read off each gene in the genome of the tissue sample we are trying to study.



True



False



Question 2 1 pts

RNA sequencing data can be used to analysis differential gene expression between two groups of tissue samples.



True



False



Question 3 1 pts

Every cell in every human on this planet has a genome sequence exactly matching to the human reference genome sequence.



True



False



Question 4 1 pts

Sequencers use 4 different radioactive probes to mark each of the 4 bases in DNA from the sequencing library so that their sequence can be read.



True



False



Question 5 1 pts

Alignment is an algorithm where the best match is found for a specific nucleotide sequence in the entire human reference genome sequence.

☐

True

☐

False



Question 6 1 pts

The number of reads that align to the chromosomal coordinates of a gene can be used as a way of quantifying that gene's expression level.

☐

True

☐

False



Question 7 1 pts

Different releases of the human reference genome differ in sequence and lack of sequence (gaps).

☐

True

☐

False



Question 8 1 pts

Tumor cells always have the same number of chromosomes as healthy cells.



True



False



Question 9 1 pts

Tumor cells from a male patient will contain a Y chromosome.



True



False



Question 10 1 pts

XX and XY are the only sex chromosome complements observed in humans.



True



False



Question 11 1 pts

Sex hormones spike at puberty and differences in hormone levels can affect expression of genes that modulate cancer progression.



True



False



Question 12 1 pts

Cancer cell lines generated in the lab always have the same chromosomes as the original tumor they came from.

☐

True

☐

False



Question 13 1 pts

A data frame in R is created with the following code inside a larger R script:

```
dataframe1 <- data.frame (  
  Name = c("Barbie", "Ken", "Skipper", "Stacie", "Chelsea"),  
  Age = c(25, 24, 16, 12, 10),  
  Favorite = c("Fashion", "Tech", "Tech", "Sports", "Stuffies")  
)
```

The value of dataframe1[2,1] is 25.

☐

True

☐

False



Question 14 1 pts

Calling

```
colnames(dataframe1)
```

will return

```
"Name", "Age", "Favorite".
```



True



False



Question 15 1 pts

Data in R data frames must be manipulated in RStudio and can not be exported for use in other software.



True



False



Question 16 1 pts

Calling

```
write.csv(dataframe1, file = "dreamhouse_data.csv")
```

will write a comma-separated value file in the current working directory even if the path to a file you read in somewhere else in the R script was in a different directory.



True



False



Question 17 1 pts

If you convert this list to factors

```
dataframe1$Favorite
```

and assign to a variable called

```
favorites
```

and call

```
levels(favorites)
```

The value of

```
favorites
```

will be a list of length 5.

☐

True

☐

False



Question 18 1 pts

The values in

```
dataframe1$Name
```

are of the character data type in R.

☐

True

☐

False



Question 19 1 pts

```
3.4
```

and

6.2

are of the integer type in R.

☐

True

☐

False



Question 20 1 pts

```
class(dataframe1[1,2])
```

given the data frame declared above is character.

☐

True

☐

False

Not saved

Submit Quiz