HS - 616 Questions week-wise

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Lecture 1a

If x <- 1:4 and y <- 5:8 what is the output of x + y ?

- A vector with values 6 8 10 12
- A numeric integer with value 6
- A numeric integer with values 6 8 10 12
- Running the statement gives an error

Lecture 1b

What is the class() of the vector 'var' in the statement var <- runif (10) < 0.5?

- Logical
- Integer
- Character
- List

Lecture 2a

Which of the following equation represents the sensitivity of a test?

- sensitivity = number of true positives / number with disease
- sensitivity = number of true negatives / number without disease
- sensitivity = number with disease / total population
- sensitivity = number of true positives / number of true negatives

Lecture 2b

Poisson Probability Distribution is a type of

- Discrete Probability Distribution
- Continuous Probability Distribution
- Cumulative distibution
- Random number generation

Lecture 3a

Given a matrix

```
##      [,1] [,2] [,3]
## [1,]    1    5    9
## [2,]    2    6   10
## [3,]    3    7   11
## [4,]    4    8   12
```

what is the output of the statement **x[1,]**

- [1] 1 5 9
- [1] 1
- [1] 1 2 3 4
- System generates a syntax error

Lecture 3b

Given a matrix A

```
##      [,1] [,2] [,3]
## [1,]    1    5    9
## [2,]    2    6   10
## [3,]    3    7   11
## [4,]    4    8   12
```

what is the output of A * Transpose(A)

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```
##      [,1] [,2] [,3] [,4]
## [1,]  107  122  137  152
## [2,]  122  140  158  176
## [3,]  137  158  179  200
## [4,]  152  176  200  224
```

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```
##      [,1] [,2] [,3] [,4]
## [1,]    1    0    0    0
## [2,]    0    1    0    0
## [3,]    0    0    1    0
## [4,]    0    0    0    1
```

- [1] 1 2 3 4
- System generates a syntax error