

Spatial ML - class 1 - intro to sf

Total points 90/100 ?

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What is an sf object in R? *

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- ☐ A matrix of coordinates only
- ☒ A data.frame with a geometry column
- ☐ A special type of plot
- ☐ A tibble with a geometry column

What does the geometry column store? *

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- ☐ Plot aesthetics
- ☐ CRS definition
- ☒ Spatial shapes (points, lines, polygons)
- ☐ Variable names



What is a LINESTRING? *

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- ☐ A bounding box
- ☒ An ordered sequence of points connected by segments
- ☐ A polygon with two vertices
- ☐ A collection of unrelated points

Why should buffering is usually done in a projected CRS? *

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- ☐ Because sf cannot buffer in longitude/latitude
- ☐ Because shapefiles require meters
- ☒ Because degrees are not meaningful distance units
- ☐ Because ggplot only works in meters



What does `st_within()` return by default? *

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- ☒ A logical list (sparse structure)
- ☐ A new sf object
- ☐ A bounding box
- ☐ A numeric distance matrix

What is the difference between `st_intersects()` and `st_intersection()`? *

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- ☐ No difference
- ☒ First returns logical test, second returns shared geometry
- ☐ First works only for points
- ☐ Second works only for polygons



What is the purpose of `st_transform()`? *

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- ☐ Simplify geometry
- ☒ Change the coordinate reference system
- ☐ Convert between sf and sp
- ☐ Change geometry type

If `st_is_valid()` returns `FALSE`, it means: *

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- ☐ The dataset has NA values
- ☒ The geometry is topologically incorrect
- ☐ The CRS is missing
- ☐ The object has no geometry



In ggplot() + geom_sf(), what does aes(color = networking) do? *

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- ☐ Sets all points to blue
- ☒ Maps color to the variable “networking”
- ☐ Changes CRS
- ☐ Filters the data

Why might we convert sf to sp? *

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- ☒ For compatibility with older packages
- ☐ To improve visualization
- ☐ Because sf cannot handle polygons
- ☐ Because sp is faster

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