

# Mod-7.R

macke

2024-02-26

```
# Create a dataframe for student information
students_df <- data.frame(
  name = c("Alice", "Bob", "Charlie"),
  age = c(20, 21, 19),
  GPA = c(3.8, 3.5, 3.2)
)

# Display the dataset
students_df
```

```
##      name age GPA
## 1  Alice  20  3.8
## 2   Bob  21  3.5
## 3 Charlie  19  3.2
```

```
# Create an S3 object
s3_student <- list(
  name = "Alice",
  age = 20,
  GPA = 3.8
)

# Assign class attribute
class(s3_student) <- "student"

# Display the S3 object
s3_student
```

```
## $name
## [1] "Alice"
##
## $age
## [1] 20
##
## $GPA
## [1] 3.8
##
## attr(,"class")
## [1] "student"
```

```

# Define the class
setClass("student",
  slots = list(
    name = "character",
    age = "numeric",
    GPA = "numeric"
  ))

# Create an S4 object
s4_student <- new("student",
  name = "Alice",
  age = 20,
  GPA = 3.8)

# Display the S4 object
s4_student

```

```

## An object of class "student"
## Slot "name":
## [1] "Alice"
##
## Slot "age":
## [1] 20
##
## Slot "GPA":
## [1] 3.8

```