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STAT 100, SEC 0221

PROBLEM 1

```
> # 1.a. - total number of Joe's beverages from Dunkin
> 5 + 2 + 4
[1] 11
> #1.b. number of pencils remaining
> 20 - 9
[1] 11
> #1.c. - average number of credits per semester
> (14 + 18 + 17 + 16)/4
[1] 16.25
> #1.d. - exponentiation
> 4^5
[1] 1024
>
```

PROBLEM 2

```
>
> #2.a. - create variables for Joe's beverages from Dunkin
> # number of iced coffees
> iced_coffees <- 5
> #number of iced lattes
> iced_lattes <- 2
> #number of hot coffees
> hot_coffees <- 4
> #total number of beverages using the variables created
> total_beverages <- iced_coffees + iced_lattes + hot_coffees
> total_beverages
[1] 11
>
> #2.b. - number of pencils remaining
> #pack of pencils
> pack_of_pencils <- 20
> #pencils Talia get
> pencils_Talia_gets <- 9
> #Sophie ends up with
> ends_up_with <- pack_of_pencils - pencils_Talia_gets
> ends_up_with
[1] 11
> #2.c. - numeric, character, logical variable
> cars_count <- 6
> month <- "March"
> logical_variable <- TRUE
>
> class(cars_count)
[1] "numeric"
> class(month)
[1] "character"
> class(logical_variable)
[1] "logical"
>
```

PROBLEM 3

```
> #3.a. - creating a vector for Bella's course credits
> Bella_Course_Credit <- c(14,18,17,16)
> class(Bella_Course_Credit)
[1] "numeric"
> summary(Bella_Course_Credit)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  14.00   15.50   16.50   16.25   17.25   18.00
> #3.b. - creating a vector for Julia's course credits
> Julia_Course_Credit <- c(15,16,16,18)
> class(Julia_Course_Credit)
[1] "numeric"
> summary(Julia_Course_Credit)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  15.00   15.75   16.00   16.25   16.50   18.00
> #3.c. - creating vector for semesters
> Semester_Names <- c("Fall 2020", "Spring 2021", "Fall 2021", "Spring 2022")
> summary(Semester_Names)
   Length     Class      Mode
        4 character character
> #3.d. - name Bella's and Julia's vector
>
>
>
>
>
>
>
> names(Bella_Course_Credit) <- Semester_Names
> Bella_Course_Credit
  Fall 2020 Spring 2021   Fall 2021 Spring 2022
         14          18          17          16
>
> names(Julia_Course_Credit) <- Semester_Names
> Julia_Course_Credit
  Fall 2020 Spring 2021   Fall 2021 Spring 2022
         15          16          16          18
>
```

```
> #3.e. - create two variables for average course credit(Bella and Julia)
> Bella_Average <- mean(Bella_Course_Credit)
> Bella_Average
[1] 16.25
>
> Julia_Average <- mean(Julia_Course_Credit)
> Julia_Average
[1] 16.25
>
```

PROBLEM 4

```
> #4.a.1. - create character vector for Student ID
> Student_ID <- c("2026001","2026002","2026003","2026004","2026005","2026006","202600
7", "2026008","2026009","2026010")
> #4.a.2. - create character vector for Gender
> Gender <- c("Female", "Male", "Male", "Female", "Other", "Male", "Female", "Prefer No
t to Say", "Male", "Female")
> #4.a.3. - create a numeric variable for course credit
> Course_Credits <- c(18,14,15,16,12,15,16,10,14,18)
> #4.a.4. - create a numeric variable for HS GPA
> HS_GPA <- c(3.85,3.65,3.50,3.45,3.70,4.05,3.95,3.25,3.40,3.35)
> #4.a.5 <- create a data frame for all variables
> Student_Survey_DataFrame <- data.frame(Student_ID,Gender,Course_Credits,HS_GPA)
> summary(Student_Survey_DataFrame)
  Student_ID           Gender          Course_Credits     HS_GPA
 Length:10          Length:10          Min.   :10.0   Min.   :3.250
 Class :character   Class :character   1st Qu.:14.0   1st Qu.:3.413
 Mode  :character   Mode  :character   Median :15.0   Median :3.575
                                       Mean   :14.8   Mean   :3.615
                                       3rd Qu.:16.0   3rd Qu.:3.812
                                       Max.   :18.0   Max.   :4.050
> #4.b. - open data frame by using View()
> View(Student_Survey_DataFrame)
>
```

	Student_ID	Gender	Course_Credits	HS_GPA
1	2026001	Female	18	3.85
2	2026002	Male	14	3.65
3	2026003	Male	15	3.50
4	2026004	Female	16	3.45
5	2026005	Other	12	3.70
6	2026006	Male	15	4.05
7	2026007	Female	16	3.95
8	2026008	Prefer Not to Say	10	3.25
9	2026009	Male	14	3.40
10	2026010	Female	18	3.35