RWorksheet_Leysa#1

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#Problem 1# a.

```
age <- c(34,28,22,36,27,18,52,39,42,29,35,31,27,22,37,34,19,20,57,49,50,37,46,25,17,37,42,53,41,51,35,24
age_data_points <- length(age)
print(age)
```

```
##  [1] 34 28 22 36 27 18 52 39 42 29 35 31 27 22 37 34 19 20 57 49 50 37 46 25 17
## [26] 37 42 53 41 51 35 24 33 41
```

```
print(age_data_points)
```

```
## [1] 34
```

#Problem 2#

```
reciprocal_age <- 1/age
print(reciprocal_age)
```

```
##  [1] 0.02941176 0.03571429 0.04545455 0.02777778 0.03703704 0.05555556
##  [7] 0.01923077 0.02564103 0.02380952 0.03448276 0.02857143 0.03225806
## [13] 0.03703704 0.04545455 0.02702703 0.02941176 0.05263158 0.05000000
## [19] 0.01754386 0.02040816 0.02000000 0.02702703 0.02173913 0.04000000
## [25] 0.05882353 0.02702703 0.02380952 0.01886792 0.02439024 0.01960784
## [31] 0.02857143 0.04166667 0.03030303 0.02439024
```

#Problem 3#

```
new_age <- c(age, 0, age)
print(new_age)
```

```
##  [1] 34 28 22 36 27 18 52 39 42 29 35 31 27 22 37 34 19 20 57 49 50 37 46 25 17
## [26] 37 42 53 41 51 35 24 33 41  0 34 28 22 36 27 18 52 39 42 29 35 31 27 22 37
## [51] 34 19 20 57 49 50 37 46 25 17 37 42 53 41 51 35 24 33 41
```

#Problem 4#

```r
sorted_age <- sort(age)
print(sorted_age)
```

```
##  [1] 17 18 19 20 22 22 24 25 27 27 28 29 31 33 34 34 35 35 36 37 37 37 39 41 41
## [26] 42 42 46 49 50 51 52 53 57
```

#Problem 5#

```r
min_age <- min(age)
max_age <- max(age)
print(min_age)
```

```
## [1] 17
```

```r
print(max_age)
```

```
## [1] 57
```

#Problem 6# a.

```r
data <- c(2.4,2.8,2.1,2.5,2.4,2.2,2.5,2.3,2.5,2.3,2.4,2.7)
print(data)
```

```
##  [1] 2.4 2.8 2.1 2.5 2.4 2.2 2.5 2.3 2.5 2.3 2.4 2.7
```

b.

```r
data_data_points <- length(data)
print(data_data_points)
```

```
## [1] 12
```

#Problem 7#

```r
data_double <- data*2
print(data_double)
```

```
##  [1] 4.8 5.6 4.2 5.0 4.8 4.4 5.0 4.6 5.0 4.6 4.8 5.4
```

#Problem 8# 8.1

```r
integers_to_100 <- 1:100
print(integers_to_100)
```

```
##   [1]   1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18
##  [19]  19  20  21  22  23  24  25  26  27  28  29  30  31  32  33  34  35  36
##  [37]  37  38  39  40  41  42  43  44  45  46  47  48  49  50  51  52  53  54
##  [55]  55  56  57  58  59  60  61  62  63  64  65  66  67  68  69  70  71  72
##  [73]  73  74  75  76  77  78  79  80  81  82  83  84  85  86  87  88  89  90
##  [91]  91  92  93  94  95  96  97  98  99 100
```

```r
int_100_data_points <- length(integers_to_100)
print(int_100_data_points)
```

```
## [1] 100
```

#Problem 8.2#

```r
numbers <- 20:60
print(numbers)
```

```
##  [1] 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44
## [26] 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
```

```r
numbers_data_points <- length(numbers)
print  (numbers_data_points)
```

```
## [1] 41
```

#Problem 8.3#

```r
mean_num <- mean(numbers)
print(mean_num)
```

```
## [1] 40
```

```r
mean_num_data_points <- length(mean_num)
print(mean_num_data_points)
```

```
## [1] 1
```

#Problem 8.4#

```r
sum_num <- sum(51:91)
print(sum_num)
```

```
## [1] 2911
```

```r
sum_data_points <- length(sum)
print(sum_data_points)
```

```
## [1] 1
```

#Problem 8.5#

```r
int_to_1k <- 1:1000
max_data_points <- max(int_to_1k[int_to_1k <= 10])
print(max_data_points)
```

```
## [1] 10
```

#Problem 9#

```r
Filter(function(i) {all(i%% c(3,5,7) !=0)}, seq(100))
```

```
##  [1]  1  2  4  8 11 13 16 17 19 22 23 26 29 31 32 34 37 38 41 43 44 46 47 52 53
## [26] 58 59 61 62 64 67 68 71 73 74 76 79 82 83 86 88 89 92 94 97
```

#Problem 10#

```r
backward_seq <- seq(100,1)
print(backward_seq)
```

```
##   [1] 100  99  98  97  96  95  94  93  92  91  90  89  88  87  86  85  84  83
##  [19]  82  81  80  79  78  77  76  75  74  73  72  71  70  69  68  67  66  65
##  [37]  64  63  62  61  60  59  58  57  56  55  54  53  52  51  50  49  48  47
##  [55]  46  45  44  43  42  41  40  39  38  37  36  35  34  33  32  31  30  29
##  [73]  28  27  26  25  24  23  22  21  20  19  18  17  16  15  14  13  12  11
##  [91]  10   9   8   7   6   5   4   3   2   1
```

#Problem 11#

```r
multiples_new <- which((1:24) %% 3==0 | (1:24) %% 5==0)
print(multiples_new)
```

```
##  [1]  3  5  6  9 10 12 15 18 20 21 24
```

```r
sum_multiple <- sum(multiples_new)
print(sum_multiple)
```

```
## [1] 143
```

#Problem 12#

```r
#x <- {0 + x + 5 + } (The code does not work)#
```

#Problem 13#

```r
score <- c(72, 86, 92, 63, 88, 89, 91, 92, 75, 75, 77)
x2<- score[2]
x3 <- score[3]
print(x2)
```

```
## [1] 86
```

```r
print(x3)
```

```
## [1] 92
```

#Problem 14#

```r
a <- c(1,2,NA,4,NA,6,7)
print(a)
```

```
## [1]  1  2 NA  4 NA  6  7
```

```r
print(a, na.print="-999")
```

```
## [1]    1    2 -999    4 -999    6    7
```

#Problem 15#

```r
name = readline(prompt= "Input your Name: ")
```

```
## Input your Name:
```

```r
age = readline(prompt="Input your age: ")
```

```
## Input your age:
```

```r
print(paste("My name is ",name,"and I am",age,"years old."))
```

```
## [1] "My name is   and I am  years old."
```

```r
print(R.version.string)
```

```
## [1] "R version 4.4.1 (2024-06-14 ucrt)"
```