Problem Set 1 Submission

Applied Stats/Quant Methods 1

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Question 1: Education

Data will first be loaded or in this case manually constructed:

```
1  y <-   c (105  , 69 , 86 , 100  , 82 , 111  , 104  , 110  , 87 , 108  , 87 , 90 , 94
      , 113  , 112  , 98 , 80 , 97 , 95 , 111  , 114  , 89 , 95 , 126  , 98)
```

1. Calculation of 90% confidence interval for student IQ

   (a) Step 1: Calculation of the sample mean:
       • Calculation of sample mean manually

   ```
   1  ybar_mnl <- sum(y)/length(y)
   ```

   The sample mean for the IQ score calculated manually is 98.44
   • Calculation of sample mean using R

   ```
   1  ybar_r_cal <- mean(y)
   ```

   The sample mean for the IQ score calculated using R is also 98.44

   (b) Step 2: Calculation of the sample variance:

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