

TASK

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R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

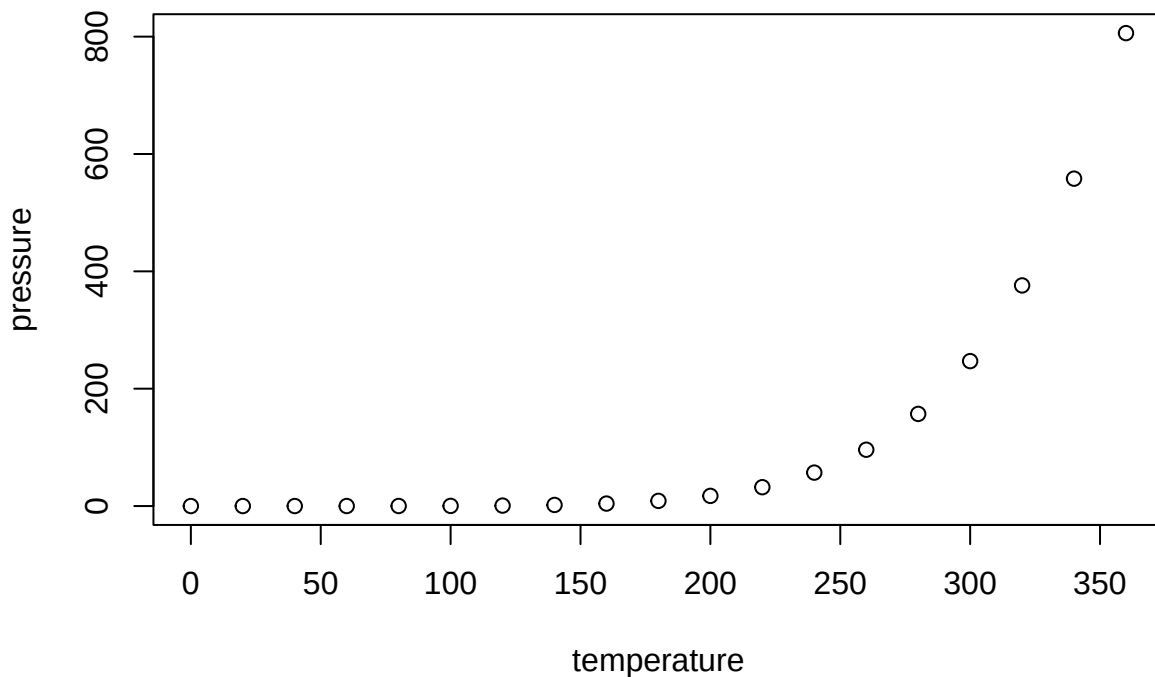
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(cars)
```

```
##      speed          dist
##  Min.   : 4.0      Min.   :  2.00
## 1st Qu.:12.0      1st Qu.: 26.00
##  Median:15.0      Median : 36.00
##  Mean  :15.4      Mean   : 42.98
## 3rd Qu.:19.0      3rd Qu.: 56.00
##  Max.  :25.0      Max.    :120.00
```

Including Plots

You can also embed plots, for example:



Activity 1 :- Classify a number as positive, negative, or zero

```
num <- -9

if (num > 0) {
  print("The number is positive.")
} else if (num < 0) {
  print("The number is negative.")
} else {
  print("The number is zero.")
}
```

```
## [1] "The number is negative."
```

Activity 2 :- Sum numbers from 1 to 100 using a loop

```
total <- 0

for (i in 1:100) {
  total <- total + i
}

print(paste("The sum of numbers from 1 to 100 is:", total))
```

```
## [1] "The sum of numbers from 1 to 100 is: 5050"
```

Activity 3 :- Generate and print random numbers until one is greater than 0.9

```
set.seed(1234)

repeat {
  num <- runif(1) # generate a random number between 0 and 1
  print(paste("Generated:", num))

  if (num > 0.9) {
    print("Number is greater than 0.9. Stopping loop.")
    break
  }
}
```

```
## [1] "Generated: 0.113703411305323"
## [1] "Generated: 0.622299404814839"
## [1] "Generated: 0.609274732880294"
## [1] "Generated: 0.623379441676661"
## [1] "Generated: 0.860915383556858"
## [1] "Generated: 0.640310605289415"
## [1] "Generated: 0.0094957563560456"
## [1] "Generated: 0.232550506014377"
## [1] "Generated: 0.666083758231252"
## [1] "Generated: 0.514251141343266"
## [1] "Generated: 0.693591291783378"
```

```
## [1] "Generated: 0.544974835589528"  
## [1] "Generated: 0.282733583590016"  
## [1] "Generated: 0.923433484276757"  
## [1] "Number is greater than 0.9. Stopping loop."
```

Activity 4:- Rewrite a loop using vectorisation

```
nums <- 1:20  
total <- sum(nums^2)  
print(total)
```

```
## [1] 2870
```