Class: 2/4 B.Tech Branch: AIML Section: B Lab Name: Probability & Statistics
Lab Program Name: Normal Distribution RegdNo: Y22ACM90

Program 3

Write R – Script to demonstrate the concept of Normal Probability Distribution.

Example: - If you work as a business analysis in a sports company that sells sports shoe for our customer group we know that fitting shoe length is normally distributed with μ=27cm and σ=2.5cm now we want to choose between two variances for the model that fits more people

Model A: Fits for shoe length range: 27.1 cm to 27.6 cm

Model B: Fits for shoe length range: 26.7 cm to 27.1 cm

Answer:

```
install.packages("visualize")

libray(visualize)

visualize.norm(stat = c(27.1,27.6),mu = 27,sd=2.5,section = "bounded")

visualize.norm(stat = c(26.7,27.1),mu = 27,sd = 2.5,section = "bounded"
```

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```
Restarting R session...

> install.packages("nycflights13")
WARNING: Rtools is required to build R packages but is not currently installed. Please download and install the appropriate version of Rtools before proceeding:

https://cran.rstudio.com/bin/windows/Rtools/
Installing package into 'C:/Users/y22acm490/AppData/Local/R/win-library/4.3'
(as 'lib' is unspecified)
trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.3/nycflights13_1.0.2.zip'
Content type 'application/zip' length 4510566 bytes (4.3 MB)
downloaded 4.3 MB

package 'nycflights13' successfully unpacked and MD5 sums checked

The downloaded binary packages are in
        C:\Users\y22acm490\AppData\Local\Temp\RtmpOY4YsN\downloaded_packages
> install.packages("visualize")
WARNING: Rtools is required to build R packages but is not currently installed. Please download and install the appropriate version of Rtools before proceeding:

https://cran.rstudio.com/bin/windows/Rtools/
Installing package into 'C:/Users/y22acm490/AppData/Local/R/win-library/4.3'
(as 'lib' is unspecified)
trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.3/visualize_4.5.0.zip'
Content type 'application/zip' length 369489 bytes (360 KB)
downloaded 360 KB

package 'visualize' successfully unpacked and MD5 sums checked

The downloaded binary packages are in
        C:\Users\y22acm490\AppData\Local\Temp\RtmpOY4YsN\downloaded_packages
> libray(visualize)
Error in libray(visualize) : could not find function "libray"
> library(visualize)
Warning message:
package 'visualize' was built under R version 4.3.2
> library(visualize)
> visualize.norm(stat = c(27.1,27.6),mu = 27,sd=2.5,section = "bounded")
>
```

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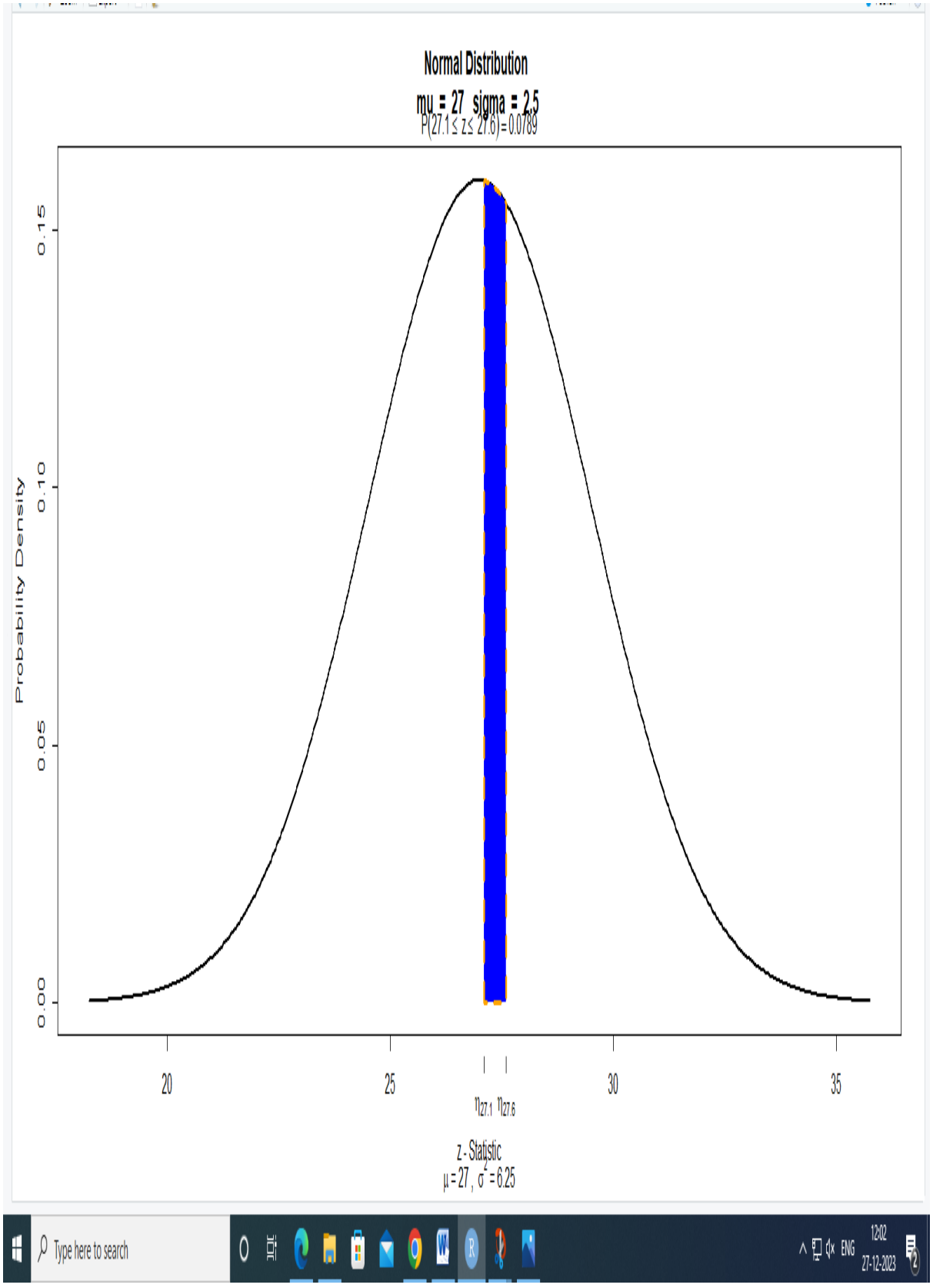

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