يونيۏرسيتي بروني دارالسلام
UNIVERSITI BRUNEI DARUSSALAM

UBD Beamer Theme using R Markdown

An example presentation document with R code

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December 11, 2020

Overview

UbĎ

Introduction

The UBD Beamer Theme is a modern and minimal theme designed for getting information across in a clean and uncluttered manner.
This theme is based on the Saarland Beamer Theme, with its logos and fonts changed, and colour scheme adapted to UBD's pastel-ised colour scheme.

Slide full of lists

Universiti Brunei Darussalam (UBD; translation University of Brunei Darussalam; Jawi: يونيبرسيتي بروني دارالسلام) is the first university in Brunei.

- UBD in figures
  - **Established**: 1985
  - **Medium of instruction**: English
  - **Academic faculties**: 9
  - **Research Institutes**: 7
  - **Student enrolment**: 3,137 (in 2015, approx.)
- History
  - **1985**: UBD established, first campus in Gadong
  - **1995**: UBD moved to Tungku Link
  - **2009**: Introduction of GenNEXT Programme
  - **2011**: Commencement of the first Discovery Year programme
- Credits: `https://ubd.edu.bn/` and Wikipedia

ubd

Blocks

Standard Block

This is a standard block using the `block` environment.

Example Block

This is an example block using the `exampleblock` environment.

Alert Block

This is an alert block using the `alertblock` environment.

Quotation

Archimedes will be remembered when Aeschylus is forgotten, because languages die and mathematical ideas do not. "Immortality" may be a silly word, but probably a mathematician has the best chance of whatever it may mean.

— G. H. Hardy in *A Mathematician's Apology, 1941*

Two columns

We can also add two columns in the slides.

This is the first column. In this column, we can also add a block for instance.

Block

I am a block in a column.

- In this column,
- we just add the
- bullet points.

Colour palette

- Frame titles: `navyblue`
- Structure: `gray`
- Standard block: `charcoal`
- Alerted block: `solidpink`
- Alerted block bg: `queenpink`
- Example block: `myrtlegreen`
- Example block: `lightcyan`
- Misc 1: `orangecrayola`
- Misc 2: `paradisepink`

Mathematics

Let $X \sim \text{Pois}(\lambda)$. The probability mass function of X is given by

$$\Pr(X = x) = \frac{e^{-\lambda}\lambda^x}{x!}. \tag{1}$$

Using the pmf given in (1), we can derive the moment generating function for X to be:

$$\begin{aligned}
M_X(t) &= \sum_{k=0}^{\infty} e^{tx} \cdot \frac{e^{-\lambda}\lambda^x}{x!} \\
&= e^{-\lambda} \sum_{k=0}^{\infty} \frac{(\lambda e^t)^x}{x!} \\
&= e^{-\lambda} e^{\lambda e^t} \\
&= \exp\{\lambda(e^t - 1)\}.
\end{aligned}$$

Theorems et al.

Definition 1 (Prime numbers)

A prime number is a natural number greater than 1 that is not a product of two smaller natural numbers.

Theorem 2 (Infinitude of primes)

There are an infinite number of prime numbers.

Proof.

Suppose that there exist only a finite number of primes, $p_1, \ldots, p_n$, say. The number

$$N = 1 + p_1 \cdots p_n$$

is divisible by some prime p. But p cannot be any of $p_1, \ldots, p_n$, since the latter all leave remainder 1 on dividing N. This contradicts our assumption that $p_1, \ldots, p_n$ is the complete list of primes. ∎

A maths example

Maths examples are continuously numbered (using the example environment).

Example 3 (Examples of prime numbers)

2, 3, 5, 7 and 11 are examples of prime numbers.

Example 4 (Examples of non-prime numbers)

Since $4 = 2 \times 2$, it is not a prime.

Citations

The importance of grounding one's self in elementary probability theory and mathematical statistics cannot be overstated. Here are some excellent fundamental textbooks every student of statistics should read: Casella and Berger (2002), Pawitan (2001), and Wasserman (2004).

It is highly suggested to use pandoc's way of generating bibliographies (see here) rather than using Biblatex. This footnote was created using the custom \blfootnote{} command.

# Syntax highlighting

```r
# function args are keywords c; function names are
# keywords d
foo = function(arg1 = 100, arg2 = "character string") {
    if (TRUE) {
        x = NULL  # if, function, NULL are keywords a
        for (i in 1:10) x = c(x, mean(3 * rnorm(100) +
            1))
    }
}

# <-, = and -> are keywords b
x <- TRUE && FALSE %in% c(T, F)
```

Slide with R Output

```r
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
```

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Slide with Plot
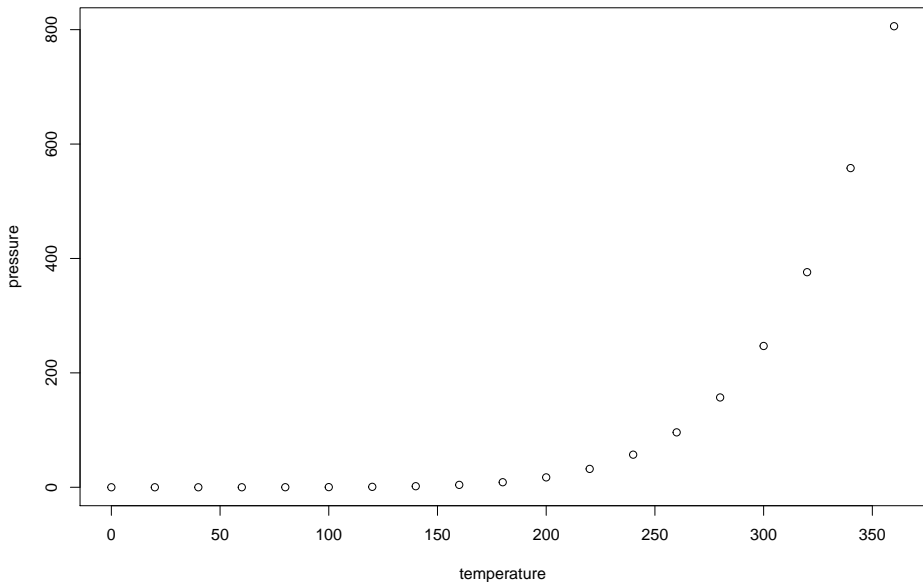
Conclusion

To use this theme, download the ubd_beamer_rmd.tex file, .sty files, and image files (for the logo and banner) from https://github.com/haziqj/ubd-beamer, and place the files together with your .Rmd source file. Use the sample slides_rmd.Rmd as a guide.

End

Thank you!

References

Casella, George, and Roger L. Berger. 2002. *Statistical Inference*. 2nd ed. Pacific Grove, CA: Duxbury.

Pawitan, Yudi. 2001. *In All Likelihood. Statistical Modelling and Inference Using Likelihood*. Oxford University Press.

Wasserman, Larry. 2004. *All of Statistics: A Concise Course in Statistical Inference*. New York: Springer-Verlag. https://doi.org/10.1007/978-0-387-21736-9.

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