

UBD Beamer Theme using RMarkdown

An example presentation document with R code

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Overview

Introduction

Features

- Lists

- Blocks

- Quotes

- Columns

- Colour palette

- Mathematics

- Citations

- Using R

Conclusion

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.

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Slide full of lists

Universiti Brunei Darussalam (UBD; translation University of Brunei Darussalam; Jawi: *يونڤيرسيتي 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

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.

Alternative Block

This is an alternatively-coloured block using the `altblock` 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

- Blues: `ubdblue` a.k.a. Dark Cornflower Blue (`#325494`)
- Teals: `ubdteal` a.k.a. Upsdell Red (`#B10F2E`)
- Yellows: `ubdyellow` a.k.a. Maize Crayola Red (`#F5C946`)
- Alerted text: `ubdred` a.k.a. Upsdell Red (`#B10F2E`)
- Normal text: `ubdblack` a.k.a. Dark Sienna (`#230C0F`)
- Grays: `gray` a.k.a. Spanish Gray (`#999999`)

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

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

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, \dots, 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, \dots, p_n , since the latter all leave remainder 1 on dividing N . This contradicts our assumption that p_1, \dots, 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

```
f <- function(x) {  
  # Check small prime  
  if (x > 10 || x < -10) {  
    stop("Input too big")  
  } else if (x %in% c(2, 3, 5, 7)) {  
    cat("Input is prime!\n")  
  } else if (x %% 2 == 0) {  
    cat("Input is even!\n")  
  } else if (x %% 2 == 1) {  
    cat("Input is odd!\n")  
  }  
}
```

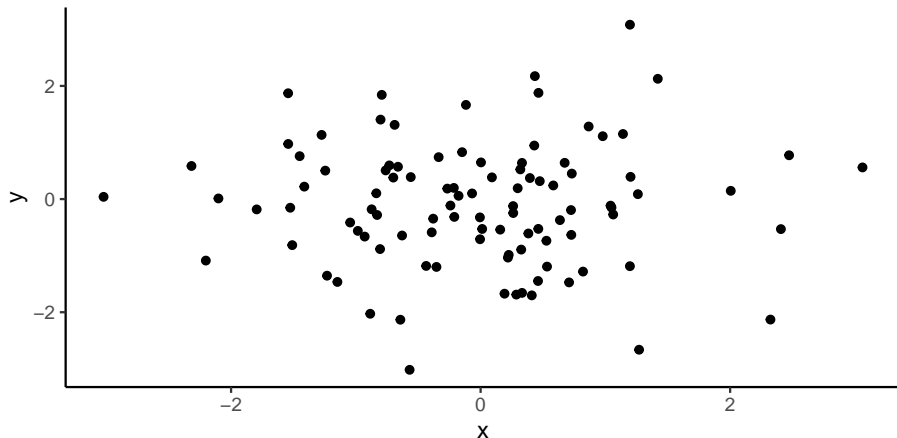
Slide with R Output

```
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

Slide with Plot

```
ggplot(tibble(x = rnorm(100), y = rnorm(100)), aes(x, y)) +  
  geom_point()
```



Introduction

Features

Conclusion

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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, G. and R. L. Berger (2002). *Statistical Inference*. 2nd ed. Pacific Grove, CA: Duxbury. ISBN: 978-0-534-24312-8.
- Pawitan, Y. (2001). *In All Likelihood*. Statistical Modelling and Inference Using Likelihood. Oxford University Press. ISBN: 978-0-19-850765-9.
- Wasserman, L. (2004). *All of Statistics. A Concise Course in Statistical Inference*. New York: Springer-Verlag. ISBN: 978-0-387-40272-7. DOI: 10.1007/978-0-387-21736-9.