# Pohan Theme

## A Beamer Theme Demonstration

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# Outline

# Emphasized Text

Text can have different **weight**. And not only weight, it could also *be italic*.
But most of the time, simply use `\emph{}` could be the best choice. In normal text, text being emphasized looks exactly *like italic text*.[1]
*Sometimes you really need to emphasize something, you might want it not only to be italic, but also **be bold***.
Other than italic and bold text, text could be colored with `\alerted{}`.

[1] But it seems that this is not working in italic mode.

# Ordered and Unordered Lists

The ordered list looks like this:

1. The first item
2. second one
    a. the nested first item
    b. the second one
        i. the most indented one
        ii. And the last one
    c. No this is the last one

And the unordered one looks like this:

- The first item
- and the second one
    - The first nested item
    - the second one
        - Foo
        - bar

# Table

In my opinion, `tabularx` could work better most of the time than simply using `tabular`.

| **Characteristics** | **Mold** | **Yeast** |
|---|---|---|
| Appearance | Fuzzy appearance and can be orange, green, black, brown, pink or purple in color | White and thready |
| Uses | Useful in biodegradation, food production (cheese) | Makeing of alcoholic beverages, used in baking, and industrial ethanol production |

Table: Molds v.s. Yeasts

# Blocks

Blocks are used to highlight some text.

## Block

Just a block.

## Alerted Block

This is an alerted block.

## Example Block

And this is an example block.

# Animated

- This first item
- The second item
- The third item is hidden at first

# Animated

- This first item
- The second item
- The third item is hidden at first

# Display and Inline Mode

Many claim that the most beautiful equation is Euler's equation.

$$e^{\pi i} = 1$$

Long ago, Johann Bernoulli noted that

$$\frac{1}{1+x^2} = \frac{1}{2}\left(\frac{1}{1-ix} + \frac{1}{1+ix}\right)$$

And Roger Cotes in 1714 discovered that $ix = \ln(\cos x + i \sin x)$

# Forward Procedure

*Forward algorithm*: define a forward variable $\alpha_t(i)$

$$\alpha_t(i) = P(o_1, o_2, \ldots, o_t,\ q_t = i \mid \lambda) \tag{1}$$

$$= \text{Prob}\left[\text{observing } o_1, o_2, \ldots, o_t, \text{ state } i \text{ at time } t \mid \lambda\right] \tag{2}$$

## Initialization

$$\alpha_1(i) = \pi_i b_i(o_1),\ 1 \le i \le N \tag{3}$$

## Induction

$$\alpha_{t+1}(j) = \left[\sum_{i=1}^{N} \alpha_t(i) a_{ij}\right] \cdot b_j(o_{t+1}),$$

$$1 \le t \le T-1,\ 1 \le j \le N \tag{4}$$

## Termination

$$P\left(\bar{O} \mid \lambda\right) = \sum_{i=1}^{N} \alpha_T(i) \tag{5}$$

# Backward Procedure

*Backward algorithm*: define a backward variable $\beta_t(i)$

$$\beta_t(i) = P(o_{t+1}, o_{t+2}, \ldots, o_T \mid q_t = i, \lambda) \tag{6}$$

$$= \text{Prob}\left[\text{observing } o_{t+1}, o_{t+2}, \ldots, o_T \mid \text{state } i \text{ at time } t,\ \lambda\right] \tag{7}$$

## Initialization

$$\beta_T(i) = 1,\ 1 \leq i \leq N \tag{8}$$

## Induction

$$\beta_t(i) = \sum_{j=1}^{N} a_{ij}\ b_j(o_{t+1})\ \beta_{t+1}(j),$$

$$t = \{T-1, T-2, \ldots, 1\},\ 1 \leq i \leq N \tag{9}$$

# Lipsum

*Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.*