

南开大学

计算机网络 课程实验报告

TCP/IP 实验



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1 一级标题

整理了在实验报告可能用到的任何元素,包括图表(及其编号),树状图,代码块,数学公式,高亮,样式内容块等。

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测试中文:

通过这次实验,我深刻体会到了同态加密技术的强大和实用性,特别是在保护数据隐私的同时执行复杂计算的能力。使用 *Microsoft SEAL* 库进行加密计算不仅加深了我对同态加密原理的理解,也提升了我的编程技能和解决实际问题的能力。

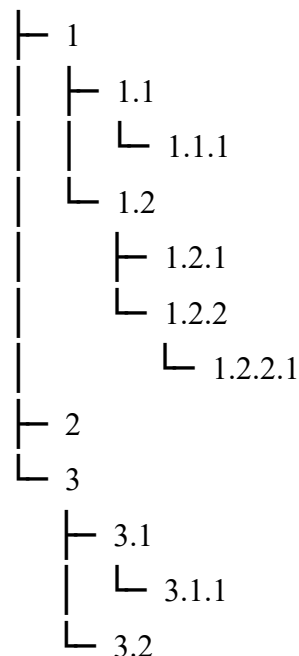
1.1 二级标题

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图 1.1.1: 南开大学校徽

树状图:



☐ Mercury

☒ Mars

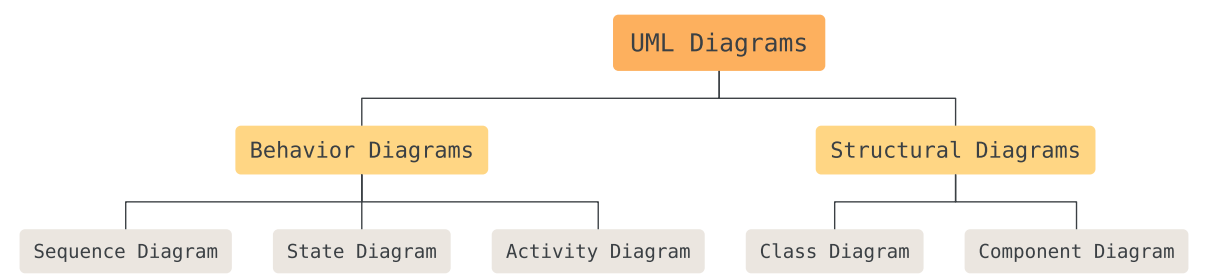
☐ Jupiter

分点:

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pintora:



1.2 测试 tablex

Username	Data		Score
	Location	Height	
John	Second St.	180 cm	5
Wally	Third Av.	160 cm	10
Jason	Some St.	150 cm	15
Robert	123 Av.	190 cm	20
Other	Unknown St.	170 cm	25

表 1.2.2: 一个表格

1.3 测试 codly

```
1 pub fn main() {
2     println!("Hello, world!");
3 }
```

rust

```
1 void MergeSort(int arr[], int left, int right) {
2     if(left >= right) return;
3     int mid = (left + right) >> 1;
4     MergeSort(arr, left, mid);
5     MergeSort(arr, mid + 1, right);
6     int i = left, j = mid + 1, k = 0, temp[right - left + 1];
7     while(i <= mid && j <= right) {
8         if(arr[i] <= arr[j]) temp[k++] = arr[i++];
9         else temp[k++] = arr[j++];
10    }
11    while(i <= mid) temp[k++] = arr[i++];
12    while(j <= right) temp[k++] = arr[j++];
```

cpp

```
13  for(int i = 0; i < k; i++) arr[left + i] = temp[i];
14 }
```

1.4 测试 cetz

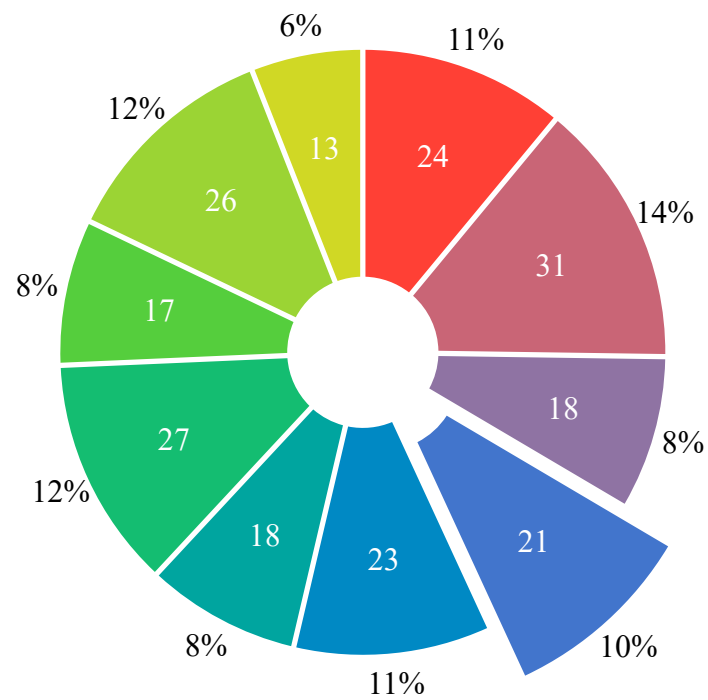


图 1.4.3: 饼图

1.5 测试 pinit

A simple highlighted text.

It is simple.

1.6 测试 colorbox

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1.7 测试 showybox

①

Red-ish showybox with separated sections!

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②

Clairaut's theorem

Let $f : A \rightarrow \mathbb{R}$ with $A \subset \mathbb{R}^n$ an open set such that its cross derivatives of any order exist and are continuous in A . Then for any point $(a_1, a_2, \dots, a_n) \in A$ it is true that

$$\frac{\partial^n f}{\partial x_i \dots \partial x_j}(a_1, a_2, \dots, a_n) = \frac{\partial^n f}{\partial x_j \dots \partial x_i}(a_1, a_2, \dots, a_n)$$

This will be useful every

time you want to interchange partial derivatives in the future.

③

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④

Divergence theorem

Suppose V is a subset of \mathbb{R}^n which is compact and has a piecewise smooth boundary S (also indicated with $\partial V = S$). If \mathbf{F} is a continuously differentiable vector field defined on a neighborhood of V , then:

$$\iiint_V (\nabla \cdot \mathbf{F}) dV = \iint_S (\mathbf{F} \cdot \hat{\mathbf{n}}) dS$$

In the case of $n = 3$, V represents a volume in three-dimensional space, and $\partial V = S$ its surface

⑤

Parent container

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Child 1

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Child 2

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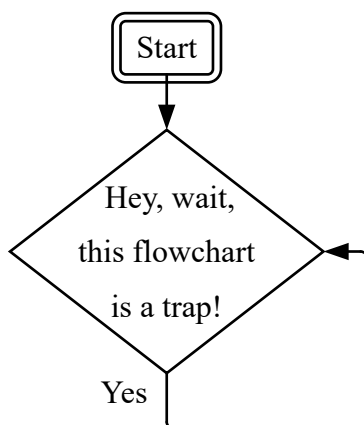
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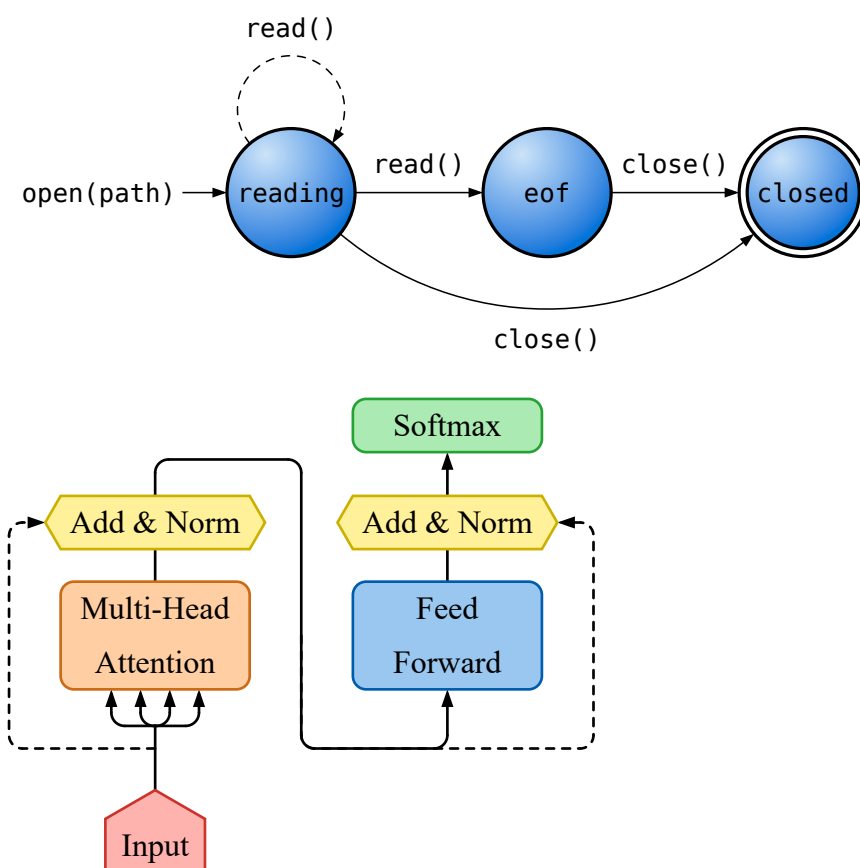
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1.8 测试 fletcher





1.9 测试 gentle

i Info

This is the info clue ...

🔥 Best tip ever

Check out this cool package

? Question

This is the info clue ...

” Quote

This is the info clue ...

💡 Example

This is the info clue ...

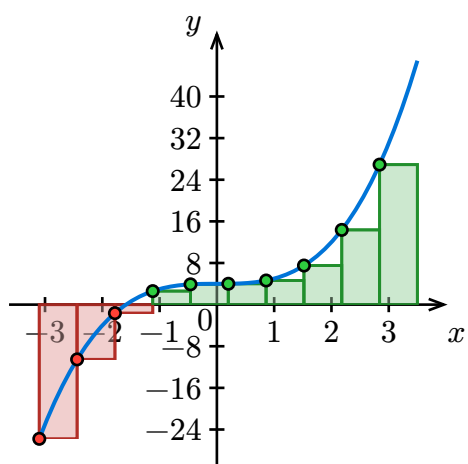
1.10 测试 badgery



1.11 测试 chromo



1.12 测试 riesketcher



1.13 测试 syntree

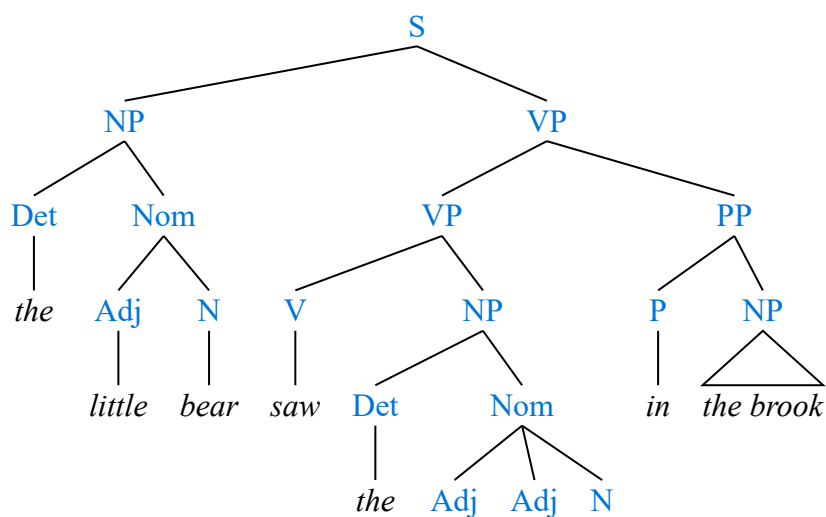


图 1.13.4: Example of a syntax tree.

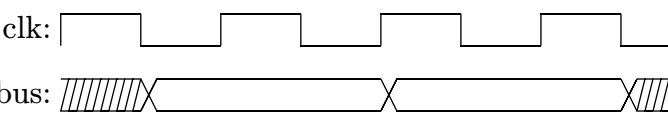
1.14 测试 physica

$$A^T, \nabla \times \boldsymbol{E} = -\frac{\partial \boldsymbol{B}}{\partial t}, \quad \Lambda^\mu{}_\nu = \begin{pmatrix} 1 & \\ & \mathbb{R} \end{pmatrix}, \quad f(x,y) \, \mathrm{d}x \, \mathrm{d}y, \quad \mathrm{d}^3 \boldsymbol{x} \, \mathrm{d}y, \quad \Delta^2 x \wedge \Delta^2 y, \quad \frac{\mathrm{D} \varphi}{\mathrm{D} t} = \frac{\partial \varphi}{\partial t} + \boldsymbol{u} \nabla \varphi$$

$$H(f) = \begin{bmatrix} \frac{\partial^2 f}{\partial x^2} & \frac{\partial^2 f}{\partial x \partial y} \\ \frac{\partial^2 f}{\partial y \partial x} & \frac{\partial^2 f}{\partial y^2} \end{bmatrix}, \quad \boldsymbol{v}^a = \sum_{i=1}^n \alpha_i \hat{\boldsymbol{u}}^i, \quad \left\{ (x,y) \left| \frac{\partial^3 f}{\partial x^2 \partial y} + \frac{\partial^3 f}{\partial x \partial y^2} < \varepsilon \right. \right\}$$

$$-\frac{1}{c^2}\frac{\partial^2}{\partial t^2}\psi+\nabla^2\psi=\frac{m^2c^2}{\hbar^2}\psi, \quad |n^{(1)}\rangle=\sum_{k\notin D}\frac{\langle k^{(0)}|V|n^{(0)}\rangle}{E_n^{(0)}-E_k^{(0)}}|k^{(0)}\rangle, \quad \int_V\mathrm{d}V\left(\frac{\partial\mathcal{L}}{\partial\varphi}-\partial_\mu\left(\frac{\partial\mathcal{L}}{\partial(\partial_\mu\varphi)}\right)\right)=0$$

$$\mathrm{d}^2s=-\left(1-\frac{2GM}{r}\right)\mathrm{d}^2t+\left(1-\frac{2GM}{r}\right)^{-1}\mathrm{d}^2r+r^2\mathrm{d}^2\Omega$$



1.15 测试 mitex

$$f(x)=\int_{-\infty}^{\infty}\hat{f}(\xi)\,e^{2\pi i\xi x}\,d\xi$$

1.16 测试 easytable

Header 1	Header 2	Header 3
How	I	want
a	drink,	alcoholic
of	course,	after
the	heavy	lectures
involving	quantum	mechanics.

表 1.16.5: 表格示例

Header 1	Header 2	Header 3
How	I	want
a	drink,	alcoholic
of	course,	after
the	heavy	lectures
involving	quantum	mechanics.

Header 1	Header 2	Header 3
How	I	want
a	drink,	alcoholic
of	course,	after

the heavy lectures
involving quantum mechanics.

1.17 测试 algo

```
FIB (n):
1  if  $n < 0$ :
2  |   return null
3  if  $n = 0$  or  $n = 1$ :
4  |   return  $n$ 
5
6  let  $x \leftarrow 0$ 
7  let  $y \leftarrow 1$ 
8  for  $i \leftarrow 2$  to  $n - 1$ : ▷ so dynamic!
9  |   let  $z \leftarrow x + y$ 
10 |    $x \leftarrow y$ 
11 |    $y \leftarrow z$ 
12
13 return  $x + y$ 
```

indent-guides: 1pt + black

main-text-styles: (size: 15pt)

```
FLOYD-WARSHALL( $V, E, w$ ):
1  Let  $\text{dist}[u, v] \leftarrow \infty$  for  $u, v$  in  $V$ 
2  For  $(u, v)$  in  $E$ :
3  |    $\text{dist}[u, v] \leftarrow w(u, v)$  // edge weights
4  For  $v$  in  $V$ :
5  |    $\text{dist}[v, v] \leftarrow 0$  // base case
6
7  For  $k \leftarrow 1$  to  $|V|$ :
8  |   For  $i \leftarrow 1$  to  $|V|$ :
9  |   |   For  $j \leftarrow 1$  to  $|V|$ :
10 |   |   |   // if new path is shorter, reduce distance
11 |   |   |   If  $\text{dist}[i, j] > \text{dist}[i, k] + \text{dist}[k, j]$ :
12 |   |   |   |    $\text{dist}[i, j] \leftarrow \text{dist}[i, k] + \text{dist}[k, j]$ 
13
14 Return dist
```

1.18 测试 theorems

Definition 1.18.1: A natural number is called a *prime number* if it is greater than 1 and cannot be written as the product of two smaller natural numbers.

Example: The numbers 2, 3, and 17 are prime. Corollary 1.18.1.1 shows that this list is not exhaustive!

Theorem 1.18.1 (Euclid): There are infinitely many primes.

Proof: Suppose to the contrary that p_1, p_2, \dots, p_n is a finite enumeration of all primes. Set $P = p_1 p_2 \dots p_n$. Since $P + 1$ is not in our list, it cannot be prime. Thus, some prime factor p_j divides $P + 1$. Since p_j also divides P , it must divide the difference $(P + 1) - P = 1$, a contradiction. ■

Corollary 1.18.1.1: There is no largest prime number.

Corollary 1.18.1.2: There are infinitely many composite numbers.

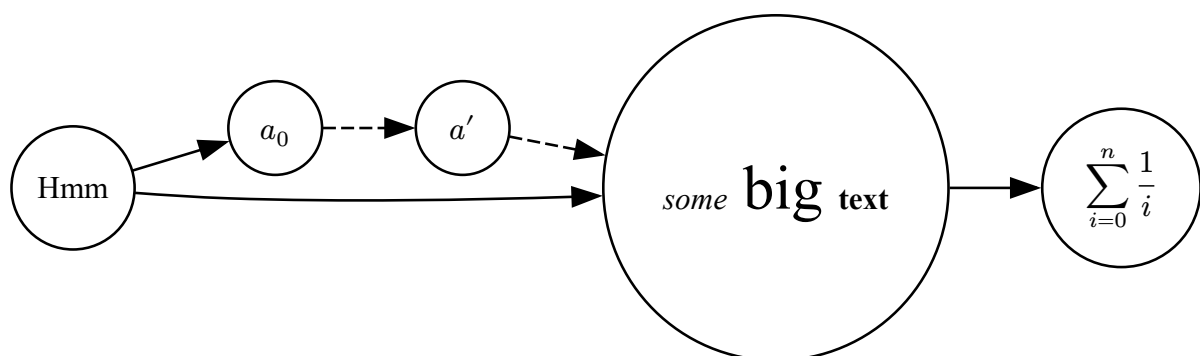
Theorem 1.18.2: There are arbitrarily long stretches of composite numbers.

Proof: For any $n > 2$, consider

$$n! + 2, \quad n! + 3, \quad \dots, \quad n! + n$$

■

1.19 测试 diagraph



1.20 测试 xarrow

$$a \xleftarrow[\mathbb{Q}, 1+1^4]{} b$$

$$c \overset{\text{very long boi}}{\rightsquigarrow} d$$

$$\frac{c}{a \overset{\text{NP}}{\overset{*}{\sum}} b \times 4}$$

1.21 测试 drafting

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You can provide two positional arguments if you want to highlight a phrase associated with your note.

Be aware that typst will complain when 4 notes overlap, and stop automatically avoiding collisions when 5 or more notes overlap. This is because the compiler stops attempting to reposition notes after a few attempts (initial layout + adjustment for each note). You can manually adjust the position of notes with `dy` to silence the warning.

To avoid collision

The first is text which should be in-line-noted, and the second is the standard margin note.