南開大學

计算机网络 课程实验报告

TCP/IP 实验

学院　火星土木学院

专业　土木工程

姓名　丁真

学号　**114514**

2077 年 1 月 1 日

目录

图表

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。

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat.

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。

分点：

1. *Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.*
2. *Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.*

- *Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.*
- *Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.*
- test[1]

terms:

Fact If a term list has a lot of text, and maybe other inline content.

Tip To make it wide, simply insert a blank line between the items.

测试文本 测试文本 测试文本 测试文本

测试文本 测试文本 测试文本

测试文本

测试文本

点击跳转链接

这是一个被强调的内容

1.1 二级标题

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat.

[1] 测试脚注

图 1.1.1: 南开大学校徽

1.2 测试 treet

树状图:

- 1
  - 1.1
    - 1.1.1
  - 1.2
    - 1.2.1
      - 1.2.2.1
- 2
- 3
  - 3.1
    - 3.1.1
- 1
  - 1.1
    - 1.1.1
  - 1.2
    - 1.2.1
      - 1.2.2.1
- 2
- 3
  - 3.1
    - 3.1.1

1.3 测试 tblr

Country	Population (millions)	Area (1000 sq. mi.)	Pop. Density (per sq. mi.)
China	1313	9596	136.9
India	1095	3287	**333.2**

Country	Population (millions)	Area (1000 sq. mi.)	Pop. Density (per sq. mi.)
United States	298	9631	31.0
Indonesia	245	1919	127.9
Brazil	188	8511	22.1
Pakistan	165	803	206.2
Bangladesh	147	144	**1023.4**[a]
Russia	142	17075	8.4
Nigeria	131	923	142.7

[a]Highest value

1.4 测试 mannot

$$\underbrace{p_i}_{\text{Probability of state } i} = \frac{\overbrace{\exp\left(-\beta E_i\right)}^{\text{Boltzmann factor}}}{\underbrace{\sum_j \exp\left(-\beta E_j\right)}_{\text{Partition function}}} \tag{1.1}$$

Inverse temperature

Energy

1.5 测试 badgery

Gray badge Red badge Yellow badge

Green badge Blue badge Purple badge Click me

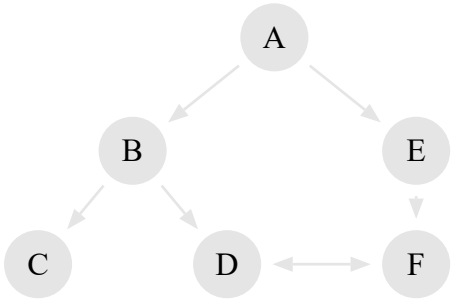
File New File...

Menu Sub-menu Sub-sub menu Action

1.6 测试 iconic-salmon-svg

This project was created by Bi0T1N. You can also find me on GitLab.

1.7 测试 cetz



1.8 测试 gentle

Info

This is the info clue …

这是一个测试标题

Check out this cool package

Question

This is the info clue …

“This is the info clue …”

Example

This is the info clue …

Abstract

This is the info clue …

Task 1

This is the info clue …

Error

This is the info clue …

Warning

This is the info clue …

Success

This is the info clue …

Conclusion

This is the info clue …

Memorize

This is the info clue …

We should run more tests!

1.9 测试 thmbox

Theorem 0.1

This is created using `#theorem[...]`.

Proposition 0.2

This is created using `#proposition[...]`.

Lemma 0.3

This is created using `#lemma[...]`.

Corollary 0.4

This is created using `#corollary[...]`.

Definition 0.5

This is created using `#definition[...]`.

Example

This is created using `#example[...]`.

Remark

This is created using `#remark[...]`.

Exercise 0.6

This is created using `#exercise[...]`.

Algorithm 0.7

This is created using `#algorithm[...]`.

Claim

This is created using `#claim[...]`.

Axiom 0.8

This is created using `#axiom[...]`.

1.10 测试 note-me

Note

Highlights information that users should take into account, even when skimming.

Tip

Optional information to help a user be more successful.

Important

Crucial information necessary for users to succeed.

Warning

Critical content demanding immediate user attention due to potential risks.

Caution

Negative potential consequences of an action.

TODO

Fix `note-me` package.

1.11 测试 colorbox

Lorem ipsum dolor sit amet.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aeque doleamus animo, cum corpore dolemus, fieri.

Lorem ipsum dolor sit amet.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aeque doleamus animo, cum corpore dolemus, fieri.

Lorem ipsum dolor sit amet.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aeque doleamus animo, cum corpore dolemus, fieri.

Lorem ipsum dolor sit amet.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aeque doleamus animo, cum corpore dolemus, fieri tamen permagna accessio potest, si aliquod aeternum et infinitum impendere malum nobis opinemur. Quod idem licet transferre in voluptatem, ut.

1.12 测试 showybox

①

Red-ish showybox with separated sections!

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor.

②

Clairaut's theorem

Let $f : A \to \mathbb{R}$ 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 $(a_1, a_2, ..., a_n) \in A$ it is true that

$$\frac{\partial^n f}{\partial x_i ... \partial x_j}(a_1, a_2, ..., a_n) = \frac{\partial^n f}{\partial x_j ... \partial x_i}(a_1, a_2, ..., a_n) \tag{1.2}$$

This will be useful every time you want to interchange partial derivatives in the future.

③

Lorem ipsum dolor.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aeque doleamus animo, cum corpore dolemus, fieri.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aeque doleamus animo, cum corpore dolemus, fieri.

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 $\boldsymbol{F}$ is a continuously differentiable vector field defined on a neighborhood of V, then:

$$\iiint_V (\boldsymbol{\nabla} \cdot \boldsymbol{F})\, \mathrm{d}V = \oiint_S (\boldsymbol{F} \cdot \hat{\boldsymbol{n}})\, \mathrm{d}S \tag{1.3}$$

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

⑤

Parent container

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

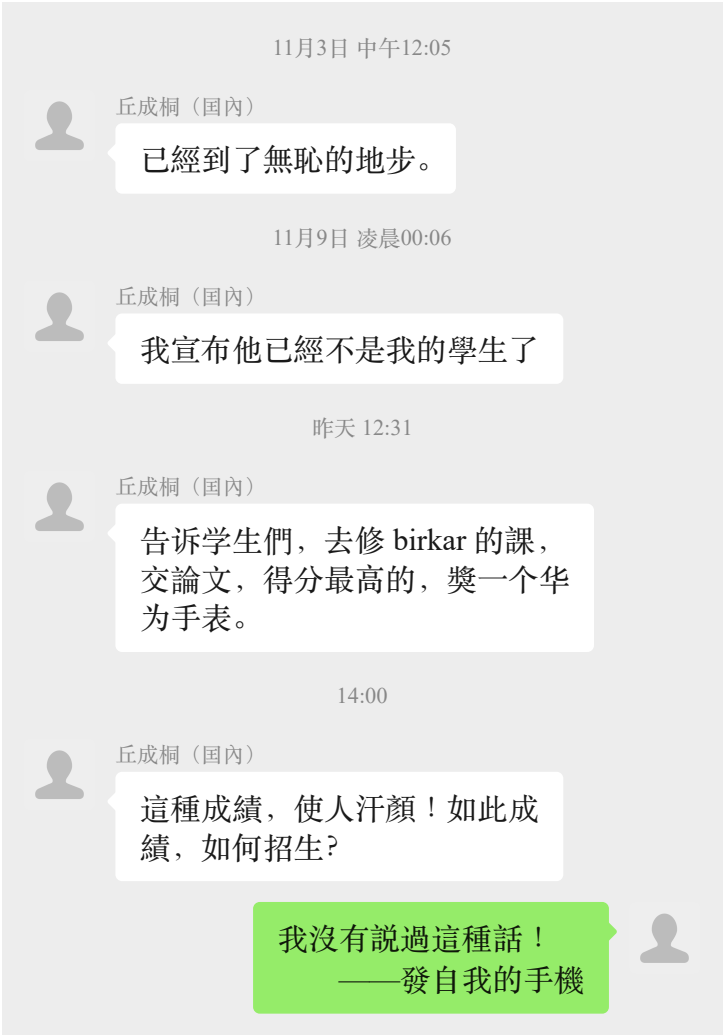
Child 1

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

Child 2

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

1.13 测试 ourchat



1.14 测试 syntree

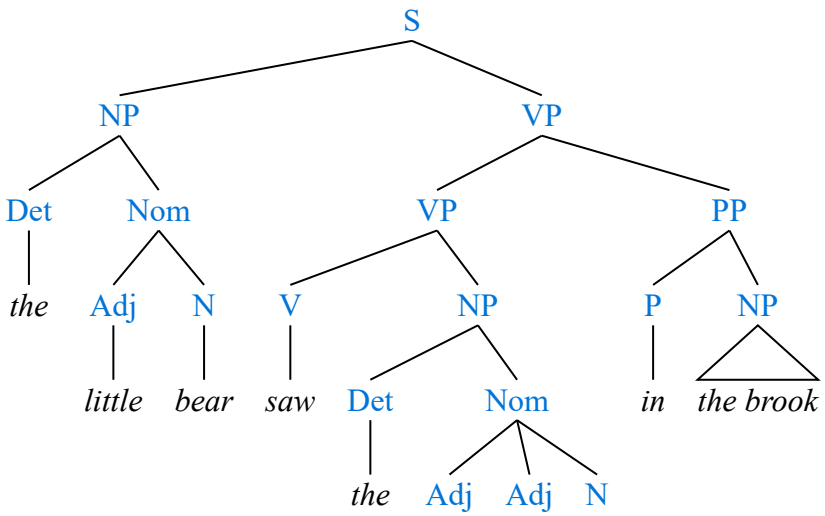


图 1.14.2: Example of a syntax tree.

1.15 测试 codly

```rust
pub fn main() {
    println!("Hello, world!");
}
```

```cpp
 void MergeSort(int arr[], int left, int right) {
   if(left >= right) return;
   int mid = (left + right) >> 1;
   MergeSort(arr, left, mid);
   MergeSort(arr, mid + 1, right);
   int i = left, j = mid + 1, k = 0, temp[right - left + 1];
   while(i <= mid && j <= right) {
     if(arr[i] <= arr[j]) temp[k++] = arr[i++];
     else temp[k++] = arr[j++];
   }
   while(i <= mid) temp[k++] = arr[i++];
   while(j <= right) temp[k++] = arr[j++];
   for(int i = 0; i < k; i++) arr[left + i] = temp[i];
}
```

1.16 测试 cheq

- [ ] Mercury
- [x] Mars
- [ ] Jupiter
- [x] Sun

1.17 测试 pyrunner

```
("john.doe@example.com", "jane.doe@example.net") 6
```

1.18 测试 pinit

A simple highlighted text.

It is simple.

1.19 测试 neoplot

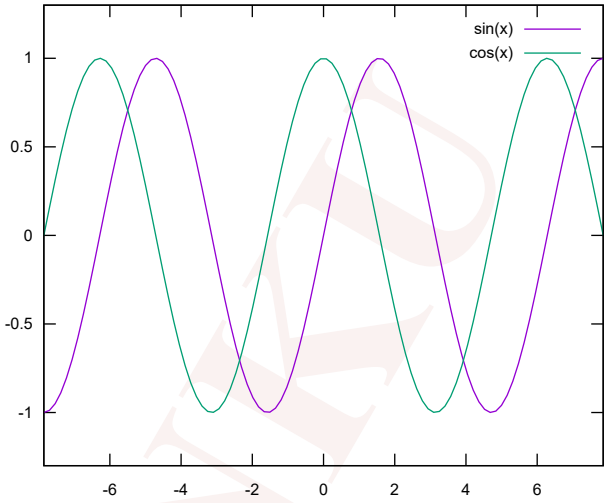
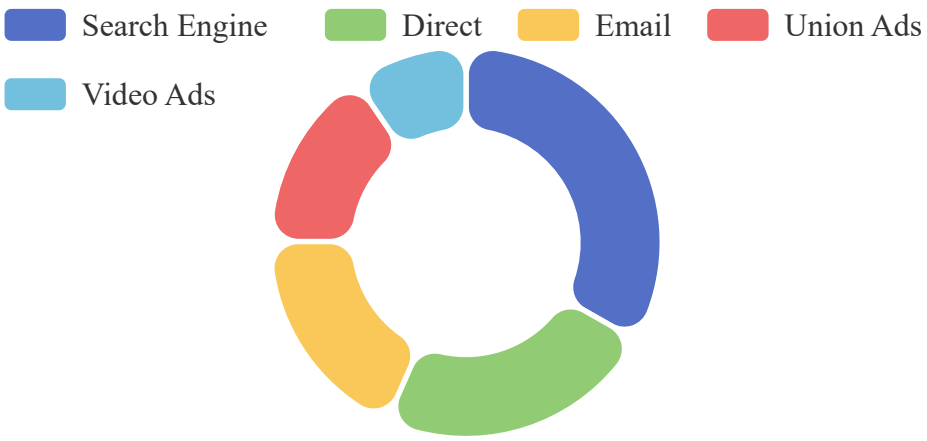


图 1.19.3: 测试图片

1.20 测试 echarm



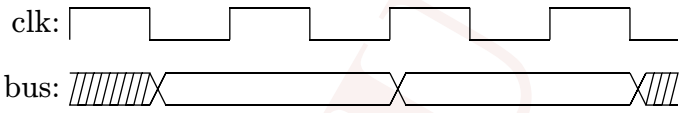
1.21 测试 physica

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

$$H(f) = \begin{bmatrix} \dfrac{\partial^2 f}{\partial x^2} & \dfrac{\partial^2 f}{\partial x \partial y} \\ \dfrac{\partial^2 f}{\partial y \partial x} & \dfrac{\partial^2 f}{\partial y^2} \end{bmatrix}, \quad \boldsymbol{v^a} = \sum_{i=1}^{n} \alpha_i \hat{\boldsymbol{u}}^{\boldsymbol{i}}, \quad \left\{ (x,y) \,\middle|\, \frac{\partial^{2,1+1} f}{\partial x^{2,1} \partial y} + \frac{\partial^{,2+1} f}{\partial x^{1,2} \partial y} < \varepsilon \right\} \tag{1.4}$$

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

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

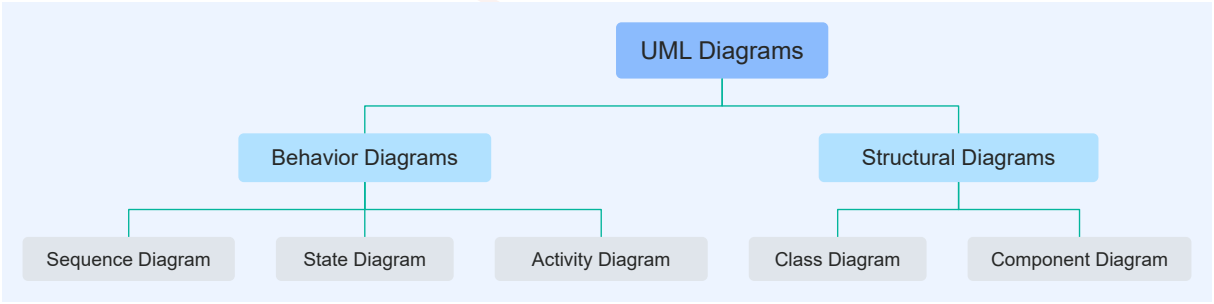


(1.5)

1.22 测试 mitex

$$f(x) = \int_{-\infty}^{\infty} \hat{f}(\xi)\, e^{2\pi i \xi x}\, d\xi \tag{1.6}$$

1.23 测试 pintora



1.24 测试 unify

$$(-1.328\,65 \pm 0.502\,73) \cdot 10^{-6} \tag{1.7}$$

$$\left(1.3^{+1.2}_{-0.3}\right) \cdot 10^{3}\ \ \mathrm{erg}\ \ \mathrm{cm}^{-2}\ \ \mathrm{s}^{-1} \tag{1.8}$$

$$1{,}123'8 \cdot 10^{-2} - 3{,}086'8 \cdot 10^{5} \tag{1.9}$$

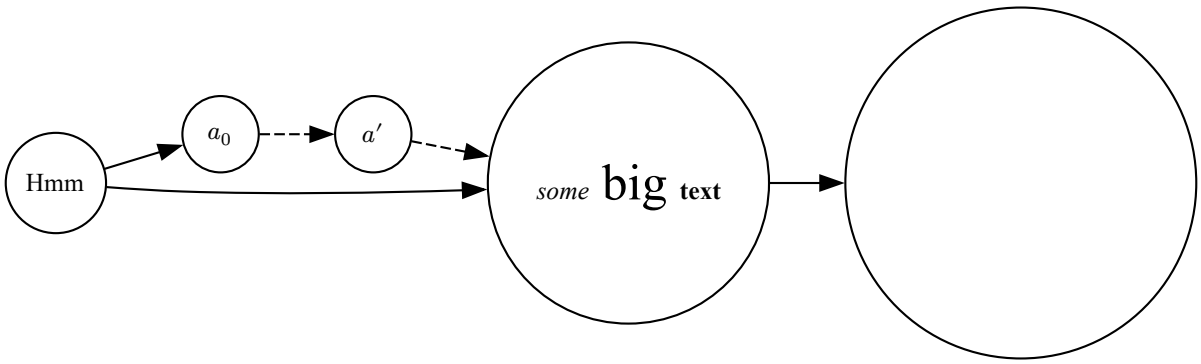
$$(1 \text{ to } 2) \cdot 10^3 \, \frac{\mathrm{m}}{\mathrm{s}^2} \tag{1.10}$$

1.25 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 ← 0
 7 let y ← 1
 8 for i ← 2 to n − 1: ▷ so dynamic!
 9 |   let z ← x + y
10 |   x ← y
11 |   y ← z
12
13 return x + y
```

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

1.26 测试 diagraph



1.27 测试 xarrow

$$\frac{a \overset{\mathbb{Q},1+1^4}{\longleftarrow} b \qquad c \overset{\text{very long boi}}{\rightsquigarrow} d}{a \overset{\text{NP}\sum^*}{\twoheadrightarrow} b \times 4} \tag{1.12}$$

测试参考文献：

文献 1 的内容[1]

文献 2 的内容[2]

参考文献

[1] R. Impagliazzo, R. Paturi, and F. Zane, “Which problems have strongly exponential complexity?,” *Journal of Computer and System Sciences*, vol. 63, no. 4, pp. 512–530, 2001.

[2] S. Burckhardt *et al.*, “It's Alive! Continuous Feedback in UI Programming,” *SIGPLAN Not.*, vol. 48, no. 6, pp. 95–104, Jun. 2013, doi: 10.1145/2499370.2462170.