

è?¥è? ã•®ã?ã?£ã?ªã?£ã?ã?ã?¹ã?ã?è??ã?ã?? ã?? 2030å¹ ã?ã??2050å¹ ã•
®ç³¼ä¼?äº?æ,¬

Description

ã??ã?ã??ã?ã?,ã?¼

- **Alã?»è?ªã?ã?ã?ã?®é?ª±?:** å³ã•ã•®ä½?æ¥ã?Alã??ã?ã?ã?ã?ã?ã?ã?«ä»£æ?¿ã?ã?ã?ã?ã?ã?
?ç?ã½?æ¥ã¬æ,¬ãºã?ã?ã?ã,æ?ã•§ã?
é¿?è§£æ±ºè?½ã??ã?ãºé??é?£ä¿?æ§?ç¬ã?ã?ã?ãºé??ç?¹æ??ã?®ã?¹ã?ã?ã?ã?é?è|ã«ã•
ªã??ã??
- **ã?jã?¿ã?ã?¼ã?¹ã?»VR/ARã•®å®?ç?ª?ã??:** ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?
®ã?
«æµ,é?ã?
¬è?½æ?§ã?
- **å®?ã®?è³?æºæ?£æ?»:** æ??ã«ã?
ªè³?æºã•®ç?ºè|ã¬ã?ç?ã?
ã?
¬ã?«ç?è|ã?
- **æ?ã?**
é«?ã?
®ã?
ªç³¼ä¼?ã?
ªç³¼ä¼?ã?
- **ç§§?ã¿ç?ç?è¿?:** å®?ã®?ç?ç?ã?
ç??ã?½èªç??ã?
ã?
- **é?ã?**
é?ã?
®ã?
æ??é??ç?ã?
¬è?½æ?§ã?
ªç ´å?ã?
- **é??ã¿æ??è¿?é©æ?º:** é?ã?
ã?
ã?
®ã®?ã?
ªçª?ã?
- **ã??ã?**
å?µè¬ã?ã?ã?»ç??ã?
®é??ç?ã?

ç³¼ä¼?ã•®å³?ã??

- **ãºã?£æ,¬ãºã?ã?é«?é½£ã??:** äºæ??ã,è³è§£æ¶¶ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?
ã?

- ǎ?ǎ?ǎ?¼ǎ?ǎ?«ǎ??ǎ? é??: ç?°ǎ?ǎ?°æ??ǎ??ǎ?•ǎ?ǎ?•®é?£æ°ǎ?•æ±?ǎ?•ǎ??ǎ??ǎ?•
ǎ?°è?`èª?è?½ǎ??ǎ??ç?°æ??ǎ??ç?°è§£ǎ?•é?•èj?ǎ?•ǎ??ǎ??ǎ??
- ǎ?µǎ??ǎ??ǎ??ǎ??ǎ??ǎ??£ǎ?•ǎ?®æ?°è?ǎ?•ǎ?,: ç?°ǎ?ç?ǎ?•éj?ǎ?•ǎ?®ǎ?•ǎ??çµ?ǎ?•ǎ?•ǎ?¼•æ¥-
æ?»ǎ??ǎ?®ǎ?•ǎ?•ǎ?ǎ??ǎ?•æ?°ç¶?ǎ?•è?½²ǎ?çµ¼ǎ?¼ǎ??ǎ??æ§ç?°?ǎ?ǎ??ǎ?»?ǎ?°ǎ?•ǎ?ç?ǎ? ǎ?
?ǎ??ǎ??

ã?ã?£ã?^aã?¢ã??ã?¹

- [illegible]

$$\mathfrak{a}^{3''}\mathfrak{a}^?\bullet\mathfrak{c}^?{}^1:$$
[illegible]

è¿?ã?å°?æ?¥æ??æ??ã^aã??é??ã?šå¿ è|ã^aã?¹ã?ã?«ã??ç?¥è?

AI

- ```
* ă??ă?ă?°ă?©ă?ă?ă?³ă?° (Python, Javaă•ăă•©)
* æ©?æ¢°ă!ç¿?ă?¢ă?«ă?´ă?ªă?°ă? ă•®ç?·è§£
* ă??ă?¼ă?¿ă?æ?·è?¼ă??
* è«?ç?·ç??æ?·è??ă??
* ă?¨ă?¼ă??ă?£ă?«ă?«ă•ªAIă•, ă•®é?¢ă¿?
```

**ã?ã??ã??ã?£ã?⁻ã?¹**

- \* ã?ã??ã??ã??ã·¥ã!|ã??ã?¶ã¼|ã·¥ã!|ã·®ç?¥è?  
 \* ã??ã?ã?°ã?©ã??ã?³ã?° (C++, RTOSã·ªã·©)  
 \* æ©?æç°è"è"ã?»è£½é? ã·«é?çã·?ã??ç?¥è?  
 \* å?·é¡?è\$£æ±±°è?½å??  
 \* å®?é"ã??é??ç?°æ?·æ-²

é?•ă•ă?³ă?³ă??ă?¥ă?¼ă?¿

- \* é?•ă•ă??ă|ç??ă°ç?ç?¥è?  
\* ă??ă?ă°ă?©ă??ă?<sup>3</sup>ă°è"è<sup>a</sup>? (Qiskit, Cirqă•<sup>a</sup>ă•©)

\* å□æ??å|ã?·ç?©ç?·?å|ã?·å·¥å|ã·®å?°ç□?ç?¥è?  
 \* ã?ã??ã??ã??ã??è|?æ??ã·®è`è`?ã?»é·?ç?`ã·«é?çå·?ã??ç?¥è?  
 \* ã??ã??ã?°ã?©ã??ã?³ã?°è?½å??  
 \* ã?·ã?¼ã? ã?`ã?¼ã?`ã·`ã?³ã??ã?¥å??ã?±ã?¼ã?·ã?šå?³è?½å??  
 \* æ?çæ±?å¿?ã·`å??é?°ç²¼ç¥?

- ǎ!æ jǎ•sǎ•®ǎ!ç¿?
- ǎ?ªǎ?ǎ?©ǎ?ªǎ?³ǎ!ç¿ǎ??ǎ?©ǎ??ǎ??ǎ??ǎ?©ǎ?¼ǎ?
- ǎ? -ǎ?¼ǎ? -ǎ?·ǎ?sǎ??ǎ??ǎ??ǎ?»ǎ??ǎ??ǎ?¼
- ǎ?ªǎ?³ǎ?¿ǎ?¼ǎ?³ǎ?·ǎ??ǎ??

[illegible][illegible]

ã??ã??

- [illegible]

ä»¥ä,?ã•®ã?ã•®ã•ä,»ã«ã?½å®¶ã•®å½½å?²ã•ã•ã•ã??:

- æ??è?²æ?¹é•©: â°?æ•¥ç³¼ä¼?ã«â¼å¿?ã§ã•ã??ä°°æ••è?²æ?•ã•®ã•?ã?•ã•  
®æ??è?²â?¶¶â¶æ?¹é•©ã??é?²ã?•ã?•STEMâ??é?¶i¼?Science, Technology, Engineering,  
Mathematicsi¼?ã•®æ??è?²ã??å å®?ã•?ã•?ã??ã??
- ç?ç©¶¶è??ç?°æ?¯æ¯: å®?å®?é??ç?°ã?•é?•å•ã?³ã?³ã??ã?¥ã?¼ã?¿ã?¼ã?•Alã•ã•©ã?•æ?ªæ?  
¥ç³¼ä¼?ã??æ?ã?•æ??è¿?é??ç?°ã•ã•®æ??è³?ã??å¢?ã??ã?•ã?•æ°?é??ä¼?æ¥ã•ã•®é?£æ?  
°ã??å¼?å??ã?ã??ã??
- ã?ãã?³ã??ã?©æ?´å??: é«?é??ã?ãã?³ã?¿ã?¼ã?•ã??ã??å??ç?•ã•®æ?´å??ã??è?ªå??é?  
?è»¢ã?ã?¹ã??ã?ã?ã•®å®?è£ã•ã•©ã?•ã?ãã??ã??ã?¼ã?ã?§ã?³ã??ã¿?é?²ã•  
ã??ã?ãã?³ã??ã?©ã?¹ã??ã?©ã?¯ã?ã?£ã?¼ã•®æ§ç?ã??é?²ã?ã??ã??
- ã?µã?¹ã??ã??ã??ã?ªã??ã?£æ?´é?: ç?°å¢?å?•é¿?å¼ç?ã?å?•ç??å?¯è?½ã?´ã?  
ã?«ã?®ã?¼é??ç?°ã?è³?æ°•å¼³¼ç?°å??ç³¼ä¼¼?ã•ã•®è»¢æ?•ã•ã•©ã??ç©•æ¥µç??ã?«æ?´ã?  
é?²ã?•ã??ã??

ā•ā??ā??ā•®ā•?ā??çµ?ā•ĉā•?é?£æ°ā•?ā•?ā•?æ?ªæ•¥ç¤¾¼ä¼¼?ā•«ā•?ā•?ā•?ā•?ā°ā•®æ´»è°•ā•ā  
 ±ā•?ā½?ā•®æ?•é?•ā•ā•ā•ā•ā½ā•®¶ā°ā½?ā•®ç?°ā±?ā??ç?®æ??ā•?ā•ā•?ā•ā•ā•ā•?é?•è|ā•§ā•  
 ?ā??

æ?ªæ•¥ç³¼¼ä¼?ã??æ??ã•¼?ã•ã•ã•ã•®ª°é??ã?¹ã?ã?«ã•?æ?æ•  
¥ã??ª½¢ä½?ã??

ç?4ä»£ã-ã?æ??èj?é©æ?°ã®æ³£ã?ä,?ç??ã??å,å.»ã?ã??æ??ä»£ã-ã?ã??ã?•Alã?•  
 å®?å®?é??ç?°ã?é?•å-ã?³ã?³ã??ã?¥ã?¼ã?¿ã?¼ã-ã?ã-£ã?ã?é??ã-?ç?®èj?ã-¼ã?ã?é?²æ©ã??é•  
 ?ã-?ã-ã-ã-¼ã-ã??ã?ã-?ã-?ã-?å?å?ã?å±ã-«ã?•ç§§-ã?ã-ã-ä°°èj?ã-æ?°ã?ã-ã-ä²èj?ã-æ©?ä¼¼?ã-  
 «ç?é©£ã?ã-ã-ã-¼ã-ã??å??å°°ã-®æ?é?•ã?å±ã-?ä½?ã-®æ?»æ?§å??ã??é??ã-?ã-ã-æ?ªæ•  
 ¥ç³¼¼¼?ã-«ã-?ã-?ã??æ?ç¶j?ç??ã-ªç?°å±?ã??ç?®æ??ã-?ã-¼ã-ã??ã-?ã??

1. å æ ǣ ã Ǿ é ẽ è ǫ ǿ ǻ ǽ

- ä??ä?\_ã?¿ã?“æ???èj?â•®æ’»ç?”: 3Dã?¢ã??ã?^ã?³ã?°æ??èj?ã•`å-¥½?æ©?æ¢°ã??ç?“ã•?ã?•æ??è»æ?Sã•`ã¹ç??æ?Sã•®é«ã•?è£½é? ä?-ã¹ã??ã? ä??æ§?ç⁻?ã?ã•¾ã•?ã??
- ä?jã?¿ã?•ã?¼ã¹ç©é??ã•®æ§?ç⁻?: Alã??æ’»ç?“ã•?ã•?ã?•ã?¼ã?•ã?£ã?“ç?°å¢?æ§?ç⁻?ã•è²¢ç?®ã•?ã?•æ?°ã?•ã?•å¡ç¿?æ?¹æ³?ã??ã?“ã³ã?¿ã?¼ã??ã?ªã?¾ã??ã½?é”ã??ç??ã•¿å°°ã?•ã•¾ã?•ã??
- å?°å?°ã•§ç?£ã?•ã??æ•æ??ã??ã½¿ã•£ã?è£½å?•é??ç?º: æ?“æ•ã?»é??å±?ç´ æ•ã??ã½¿ã•£ã?ç?°å¢?è² è².ã½?æ?å??è£½å?•é??ç?ºã??é??ã?•ã!ã?æ?•ç¶?å⁻è?½ãªçª¾¼¼?ã•®å®?ç?

¾ã??ç?®æ??ã•?ã•¾ã•?ã??

2. ă®?è·µç??ă<sup>a</sup>ă<sup>1</sup>ă?ă?«ă??æ'»ă·?ă·?ă·?è<sup>2</sup>çç?®ă·æ??ă°?

- ä? - ä?¼ä? - ä?·ä?§ä??ä??é??ä?-ä?·ä?æ§ä?ä?ä??ä?§ä<sup>00</sup>ä?¾ä?·§ä?·è<sup>a0</sup>ä?·§ä??ä?ä? ä-§ä<sup>00</sup>  
ä??ä?·¥ä½?æ??ä?⊙ä??é??ä?·ä?|ä?·ç?<sup>0</sup>æ?<sup>3</sup>ä??ä?·æ??èj?ä?⊗ç¿?ä¼?ä??ä¿?ä?·ä?¾ä?·ä??  
• ä?¹ä?ä?«ä?·ä?§ä?¢ä??ä?©ä??ä??ä??ä?©ä?¼ä? æ§ä?ç-?:ä?<sup>a</sup>ä?<sup>3</sup>ä?©ä?⊙ä?<sup>3</sup>ä?§ä|ä??ä?  
ä?<sup>1</sup>ä?ä?«ä??ä? ±æ??ä?·ä?·ä»?ä?⊗ä?|ä?¼ä?¶ä?¼ä?·ä?⊗ä?·æ¥ä??ä¿?é?<sup>2</sup>ä?·ä?¾ä?·ä??

3. å?°å??ç?£æ¥ã•®æ?è??ã¨å¤?é•œæ? ç?¹å½φæ?•

- **ǎ?°ǎ??è³?æ°æ'»ç?':** æ?°æ•ǎ?»é??ǎ±?ǎ°ǎ•©ǎ?°ǎ??ǎ•®ç? æ•ǎ??æ'»ç?°ǎ?ǎ?°è£½ǎ?•  
é??ç?°ǎ??é??ǎ?ǎ•ǎ?°ǎ?°æ?¹çµ?æ, ǎ•®æ'»æ?§ǎ??ǎ??ç?°®æ?°ǎ?ǎ•¾ǎ?°ǎ??
- **æ??èj?ǎ°æµ•ǎ?ǎ?°ǎ?°é??ǎ?°-** ǎ½æ¥ǎ?°ç ?ç©¶æ©?é?çǎ?°ǎ?°ǎ°ǎ•®ǎ?°ǎ?°«ǎ??æ?°ǎ  
°ǎ°ǎ? ǎ?°é??ǎ?°ǎ?°ǎ?°çǎ?°ǎ?°ǎ?°çǎ?°ǎ?°±æ??ǎ?°ǎ?°æ?°ǎ?°ǎ°æ?°èj?é??ç?°ǎ??ǎ?°é?²ǎ•  
ǎ??ǎ?°ǎ?°è°ǎ?°ǎ•¾ǎ?°ǎ??

## Σμ·è«?

[illegible]

ã?¢ã??ã•¥ã•ã??¿;¾ã??ZIKUUã?•ã?•é?•¿°?¿¹'ã•®ã?ã?£ã?ªã?¢ã??ã?¹ä½?ã??ã•  
«è²¢ç?®ã•§ã•ã??¿•ä½?ç??ã•ªæ?¹æ³?

- [illegible]

•æ?`ã•ã??ç?°±?ã•®ã•`è?½æ?Sã??å°?ã?ã??ã•¼ã•?ã??

## ã?¢ã??ã•¥ã•ã??å¡¼ã??ZIKUUã?•ã•®ã®?é??ã•®ã•?ã??çµ?ã•¿

ã?¢ã??ã•¥ã•ã??å¡¼ã??ZIKUUã?•ã•Sã•`ã?æ?`ã•¥ã?•é??å•¥ã?•æ°¶æ?¥ã?•æ??ç?°±? å•¥ã?•ã??ã?-ã?°ã?©ã??ã?³ã?°ã?•CADã•ã•©ã??å¡¼ç¿?ã•Sã•ã??è`å??ã??ç?°æ?•ã?ã?•çµ?é`è? ã??å°?é??å®¶ã•®æ??å°?ã??å?©è`ã??å?ã?ã•ã?ã??ã?•æ??é??ã??è²»ç?°ã??æ°?ã•«ã•?ã?ã?ã•«å¡¼ã•¼ã•?ã??

## å•?ç?°®ã½?é`?æ??å®¶

æ?`å•¥æ??ç?°±ã•Sé£?å?`ã??ã½?ã??ã?ã?ã?-ã?¶ã?½ã?`ã?©ã??ã??ã?Sé•©å°?ç?©ã??ã½?ã??ã?•æ?`è£½ã•®é£?å?`ã??æ¼ã?ã•Sã»?ã,?ã?ã??ã?ã?ã?|ã?`ã?-ã?-ã??çµ?ã¿ç«?ã|ã??ã•ã•©ã•®ã½?é`æ??å®¶ã??é??ã?ã?|ã?ã?ã¼ã•?ã??

## ã?|ã??ã?¼ã?`ã•ã?¢ã??ã•¥ã•ã??

- æ?`è£½ã?ã?¼ã??ã?ã?ã?`ã•ã??ã?-ã?¼ã?ã•®è£½ã½?:ã??æ£®æ??è³?æ°•ã•®æ??å°?æ´ç?°ã??ã¿?é?²ã?ã??ã?ã?ã?ã?ã?ç?°®ã,?ã•±ã•ã?ã?ã?ã?ã?ã¼ã•?ã??æ?`è£½ã?-ã?¼ã??ã?ã?ã?ã?`ã??è£½ã½?ã?ã??é?ç?°ã?Sã?•é«?å°¼ã•æ?`å•¥æ??è¡?ã?•é??å±?å? å•¥æ??è¡?ã?•è²»è«?è»ã?ã•«å°¼ã?ã??æ•±ã?ç?°è££ã?ã¼ã?ã??ã?ã?ã¼ã•?ã??
- 3Dã??ã?³ã?ã?¿ã?¼ã??ã½¿ã•£ã?ã?©ã½?æ??é•é•jã•®è£½ã½?:ã??CADã??3Dã??ã?ã?³ã?æ??è¡?ã??å?©ç?°ã?ã?ã?ã?¢ã??ã•¥ã•ã??ã??æ?`é²ã?ã?|ã?ã?ã¼ã?ã??CADã??3Dã??ã?ã?³ã?¿ã?¼ã??æ´»ç?°ã?ã?ã?è£½é? æ??è¡?ã?ã?©ã½?æ??é•é•jã•®èè`è`ã??è£½ã½?ã?ã?å¡æ©å?`ã•®ç?¥è?ã?ç?°»å?å?|ç?°ã??ã??ã?ã?ã?ã?©ã??ã?³ã?°ã?å°?çµ?ã?ã?å¡¼ã•¼ã•?ã??

## å??é??æ`æ?ç??ã•ã?¢ã??ã•¥ã•ã??

ã??ã?|ã??ã?¼ã?`ã•ã?¢ã??ã•¥ã•ã??ã?ã?ã•®å¼ã?ã?«ã?ã??ã??ã?ã?ã?ã?ã?«ã?å°?é??æ`æ?ç??ã?ã??ã?-ã?,ã?Sã?`ã??ã??æ•æ¡?ã?ã??ã?ã?ã?ã?ã?Så°?æS?ã?ã?¹ã?ã?«ã??è°«ã?«ã?±ã?ã??ã?ã?»å??é??ã,ã•®è??å°³ã??æ?•ã?ã?ã?ã?ã?ã?ã?£ã?è©|ã¿ã??è¡?ã?£ã?|ã?ã?ã¼ã•?ã??

## Alã•®æ´ç?°

å¡¼ã•®ã?µã?¼ã?•ã?¼ã?Sã•`ç??æ?Alã??ç?°¼å?ã?ã?ã?|ã?ã??ã?ã?ã?ç?°®æ??æ?,ã½?æ?ã??æ??æ?,æ££ã•«å½ç«?ã?|ã?|ã?ã?ã¼ã•?ã??

## å¡¼å»°å±?ã•®å»°°ç?°

æ•¿å??å•¥æ³ã??ç?°ã?ã?|å»°è`ã?ã?å¡¼å»°å±?ã?`å•¥ç?°ã•®å?ã??ã?»ã?«ã??ã??ã?«ã??ã?Sè¡?ã?ã?ã¼ã?ã?ã??ã½±ã?ã?ã?Så°°ã•®é?ã??å®¶ã?ã?å°?è??ã??ã?ã?ã?ã?ã?ã?ã?Så°°ã?|ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?ã?è??ã?ã?|ã?ã?ã¼ã?ã??

## å±å?ã½?ã½¢æ?•

æ£®ã•®ã,ã•Sã?•æ?`ã?ã•®å¼æ?|ã?è£½æ?ã?æ??çµ?è£½å?ã?ã?è£½é?ã?ã?¢ã??ã•¥ã•ã?ã??ã½?é`ã?ã?ã?-ã?,ã?£ã?¼æ?½è`ã½?ã??ã?ã?©ã??ã,?è²«ã?ã?è¡?ã?ã?»çµ?ã?¿ã½?ã??ã?ã?«å?å?ã

•?ã•¼ã•?ã??

Category

1. ç?¬ã??è``?

Tags

1. ã?ã?£ã?ªã?¢ã??ã?¹
2. ä,?é??å??å,?
3. å±±æ¢ç??

Date Created

2024å¹9æ??14æ?¥

Author

kazuo-tsubaki

default watermark