

# Use R for Fun

The 6th Chinese R Conference Shanghai Session

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## 1 Motivation



# Content

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② For Game



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- ② For Game
- ③ For Entertainment



# Content

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- ④ For Imaging



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# Motivation

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# Motivation

As we all know, R has became playing a more and more important role in our academic life. Numerous friends and juniors always ask me that how to learn R efficiently. Obviously the best way is practice, the more, the better. But the question is that practice usually feels boring, so it is necessary to find a way to learn R happily. Because of this, I want to say several examples and experiences about using R for fun today. In addition, I also hope that my speaking can let more and more friends begin to love R programming.

# For Game

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# How to Achieve

## Function getGraphicsEvent

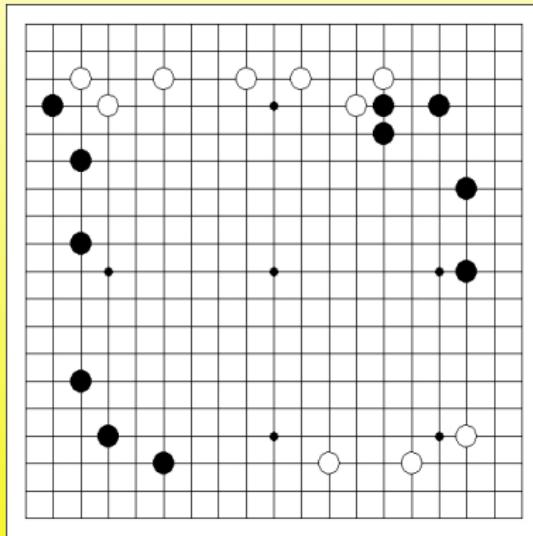
```
getGraphicsEvent(prompt = "Waiting for input",
                  onMouseDown = NULL, onMouseMove = NULL,
                  onMouseUp = NULL, onKeybd = NULL,
                  consolePrompt = prompt)
```

## Function identify and locator

```
identify(x, y = NULL, labels = seq_along(x),
          pos = FALSE, n = length(x), plot = TRUE,
          atpen = FALSE, offset = 0.5, tolerance = 0.25, ...)
locator(n = 512, type = "n", ...)
```

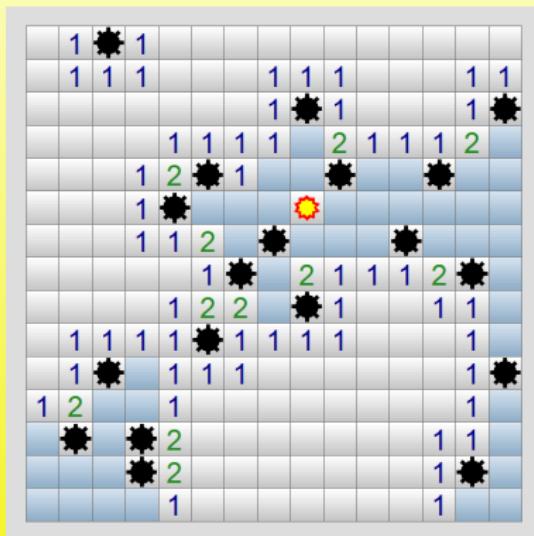
# Example Game

## Gomoku



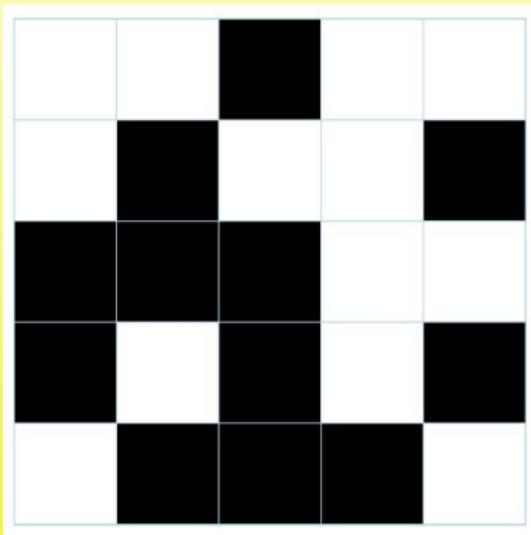
# Example Game

## Mine Sweeper



# Example Game

## Light



# Example Game

## Sudoku

	8	2	4	1		6		7
1	4	3	6	9	7		8	
9			8	5		4		3
6	7		5	2		3		
	8		1	3		9		6
3	1		9	7	6		5	2
4		1		6	9	2	8	
8	2		3	4	1	7		9
6		2	8			4	1	



# For Entertainment

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# For Entertainment

- Performing Magic
- Playing Music
- Animation
- Some others



## Predicting Random Number



## Package sound or tuneR

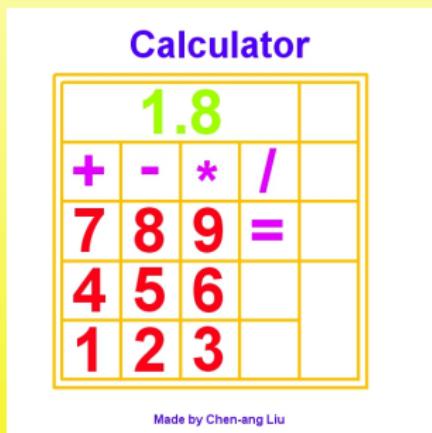
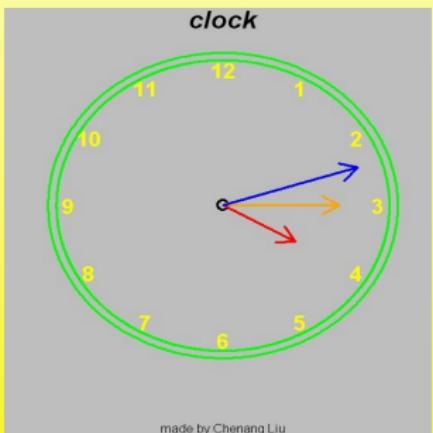


# Animation

## Package animation and R2SWF



# Some Others



# For Imaging

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# Image Process

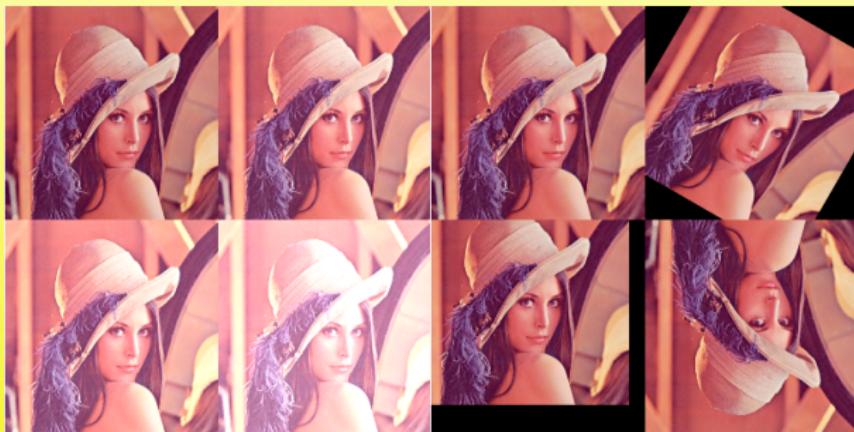
## Drawing Money

Have you ever considered how to draw a paper currency?



# Image Process

## Basic Process



# Image Process

## Further Process



# Image Process

## Filter



# Image Process

## Old Photo



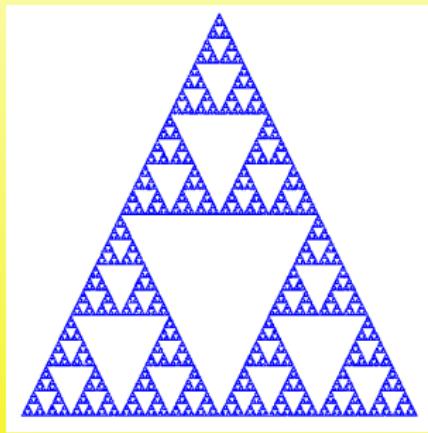
# Image Process

## Pencil Drawing



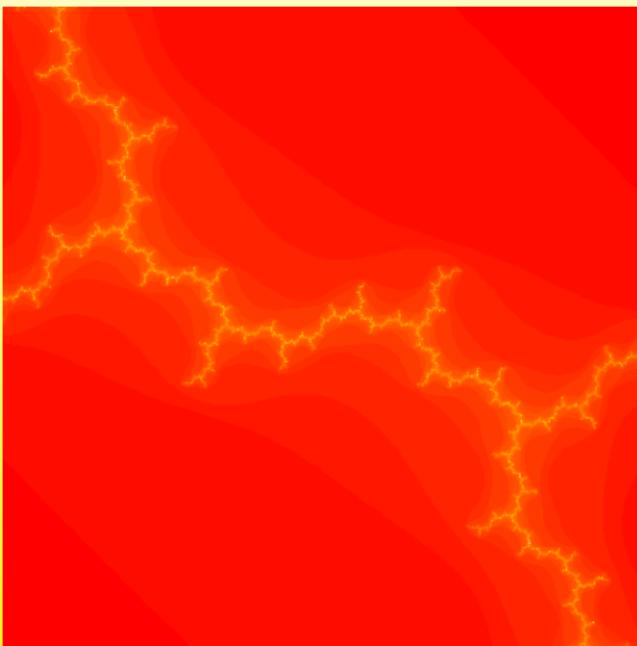
# Fractal Graphics

## Classical Graphics



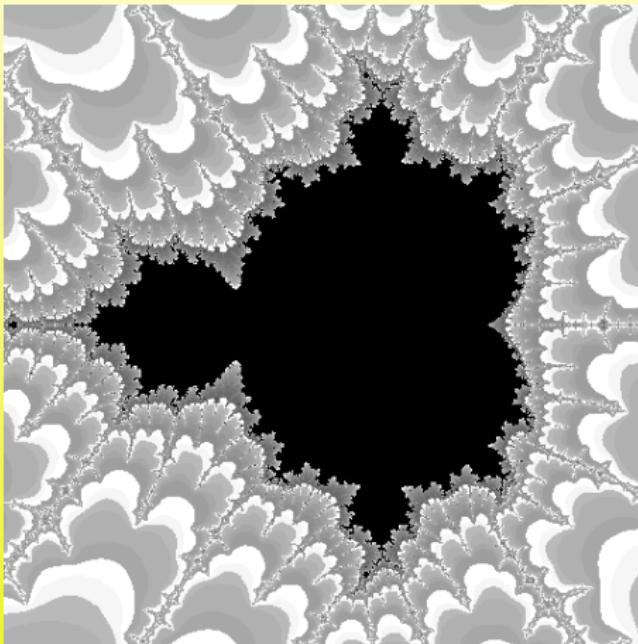
# Fractal Graphics

## Julia Set

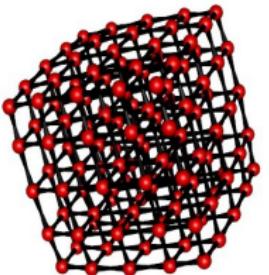
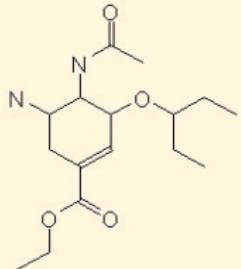
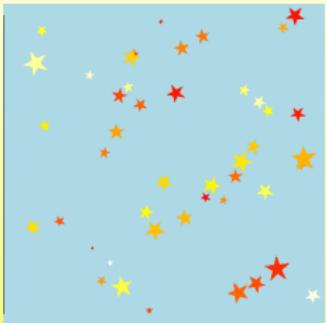


# Fractal Graphics

## Mandelbrot Set



# Other Interesting Graphics



# Others

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# Others

- Pictograms by R, cited from Robert Grant blog
- Reading XKCD Comics via package RXKCD, cited from revolution analytics
- Simulating a card trick
- Recognizing verification code, cited from BBS of COS
- Package scholar which has released in recent days



# Conclusion

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# Conclusion

招式千变万化，且良莠不齐，既不可能一一烂熟于心，亦不可能几招致命。唯有积累点滴修炼内功才是王道，内功若略有所成，则各路招式即学即用。



# Acknowledgement

- Thanks for the Organization Committee of Chinese R Conference giving me this chance of talking
- Thanks for Capital of Statistics providing numerous excellent examples for my speaking
- Thanks for my friends helping me to modify my slide
- Thanks for your watching, and if you want to reading more examples and applications, please pay attention to my serialized article—Use R for Fun



# Acknowledgement

# Thank you!



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