

# R 강의

## 첫번째 시간

김형준  
Data Analytics

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# R

- R 언어는 통계 계산과 그래픽을 위한 프로그래밍 언어
- S-PLUS -> R (1997, GUN PROJECT)
- 한계 : R's biggest challenge is that most R users are not programmers
- 극복 : Solving the "Two-Language" Problem

## 설치

- Install R (<http://www.r-project.org/>)
- Install the latest version of RStudio (<http://rstudio.org/download/>)

# 적절한 code editor 고르기

예) R Studio

# Introduction

The "Comprehensive R Archive Network" (CRAN)

is a collection of sites which carry identical material, consisting of the R distribution(s), the contributed extensions, documentation for R, and binaries.

## 장점

- Freeware
- 대화식 프로그램
- 방대한 라이브러리
- 다양한 OS 지원
- Java, C, Fortran 프로그래밍 인터페이스
- 다양한 그래픽 지원

## 단점

- Freeware --> 저자 마음대로 input 설정

# 기초연산 & 변수 다루기

FUNC		FUNC	
+ - * / ^	단순계산		
sqrt(x)	제곱근	ceiling(x)	올림
floor(x)	내림	abs(x)	절댓값
trunc(x)	버림	log(x)	자연로그
round(x)	반올림	round(x,n)	소수점 n 까지 반올림
factorial(n)	n!	choose(n,k)	nCk

예)

```
factorial(3)
```

```
[1] 6
```

```
round(25.233,1)
```

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# 패키지(라이브러리)

```
head(installed.packages())
```

```
##          Package
## abind     "abind"
## acepack  "acepack"
## ACTCD     "ACTCD"
## affy      "affy"
## affyio    "affyio"
## amap      "amap"
##          LibPath
## abind     "/Library/Frameworks/R.framework/Versions/3.1/Resources/library"
## acepack   "/Library/Frameworks/R.framework/Versions/3.1/Resources/library"
## ACTCD     "/Library/Frameworks/R.framework/Versions/3.1/Resources/library"
## affy      "/Library/Frameworks/R.framework/Versions/3.1/Resources/library"
## affyio    "/Library/Frameworks/R.framework/Versions/3.1/Resources/library"
## amap      "/Library/Frameworks/R.framework/Versions/3.1/Resources/library"
```

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## 패키지 설치

```
install.packages("dplyr")
```

```
## Error: trying to use CRAN without setting a mirror
```

```
install.packages("dplyr", repos="http://cran.rstudio.com/")
```

## 패키지 정보

CRAN (<https://www.google.co.kr/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=cran>)

CRAN Pac. by names ([http://cran.r-project.org/web/packages/available\\_packages\\_by\\_name.html](http://cran.r-project.org/web/packages/available_packages_by_name.html))

CRAN Pac. by Tasks (<http://cran.r-project.org/web/views/>)



# Help, RSiteSearch

```
RSiteSearch("sna")
```

```
??sna
```