Using Rmath Standalone Library in Your C++ Program

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Why should we use this Rmath library?

- Because
  - We are statisticians and we like R
  - We are statistical geneticists and we use C/C++

What does Rmath offer?

- Random number generators
- All probability functions provided in R

An Example

```
#include <stdio.h>
#define MATHLIB_STANDALONE
#include "Rmath.h"

main(){
  double shape1,shape2,prob;

  printf("Enter first shape parameter: ");
  scanf("%lf",&shape1);

  printf("Enter second shape parameter: ");
  scanf("%lf",&shape2);

  printf("Enter probability level: ");
  scanf("%lf",&prob);

  printf("Critical value is %l\n",qbeta(prob,shape1,shape2,1,0));
}
```

How to use?

- Download R source codef
- Build libRmath.a or libRmath.so
- Add the following to your code

  #define MATHLIB_STANDALONE

  #include "Rmath.h"
- Find prototypes of functions in Rmath.h, or simply find R function descriptions.