
Subject: random functions proposal

Posted by [ratah](#) on Mon, 16 Jan 2012 16:06:00 GMT

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Hello everybody,

I looked for a random function between an interval (a,b) and did not find (maybe I am so pressed). So, I decide to write these 2 functions `c_random_a_b` and `upp_random_a_b` for you.

```
#include <Core/Core.h>
```

```
using namespace Upp;
```

```
int putBetween(const int x1, const int x2, const int x3)
```

```
{  
    int copie_x1 = x1;  
    int copie_x2 = x2;
```

```
    // Put x3 between x1 et x2
```

```
    int d1 = x3 - copie_x1;  
    int d2 = x3 - copie_x2;
```

```
    if(copie_x2 < copie_x1)
```

```
    {  
        int tmp = copie_x2;
```

```
        copie_x2 = copie_x1;  
        copie_x1 = tmp;  
    }
```

```
    if(x3 >= copie_x1 && x3 <= copie_x2) return x3;
```

```
    if(d1 == 0) d1 = (copie_x2-copie_x1)/2;
```

```
    double rapport = 100*cos(d1+d2)*(copie_x2-copie_x1);  
    if(rapport < 0) rapport *= -1;
```

```
    double dnewx3 = (100*copie_x1 + rapport)/100;  
    int newx3 = (int) round(dnewx3);
```

```
    return newx3;  
}
```

```
int c_rand_a_b(int x1, int x2)
```

```

{

// Using standard C function rand()

if(x1 == x2)
    return x1;

int x3 = rand();

int newx3 = putBetween(x1, x2, x3);

return newx3;
}

int upp_rand_a_b(int x1, int x2)
{

// Using U++ function Random()

if(x1 == x2)
    return x1;

String s3;

dword dw3 = Random();
s3 << dw3;

int x3 = StrInt(s3);

int newx3 = putBetween(x1, x2, x3);

return newx3;
}

CONSOLE_APP_MAIN
{
    Cout() << "Random function proposal"; Cout().PutEol();

    int a, b;
    String sa, sb;

    do
    {
        Cout().PutEol();
        Cout() << "Enter a number named \"a\":";
    }
}

```

```

sa = ReadStdIn();

a = StrInt(sa);
}
while(a<0);

do
{
Cout().PutEol();
Cout() << "Enter another number different of " << a << " named \"b\":";

sb = ReadStdIn();

b = StrInt(sb);
}
while(b<0 || b==a);

Cout().PutEol();
Cout() << "-----";

/// Proposal 1: c_rand_a_b(a,b)

// To use c_rand_a_b correctly, you might reset srand each time you reexecute the program
// Otherwise you get the same sequential data

Time t = GetSysTime();
srand((unsigned int) t.second*1000);

Cout().PutEol();
Cout() << "Using standard C rand() function : c_rand_a_b(" << a << ", " << b << ") ";
Cout().PutEol();
for(int i=0; i<10; i++)
{
Cout() << c_rand_a_b(a, b) << " ";
}

/// Proposal 2: upp_rand_a_b(a,b)

Cout().PutEol();
Cout() << "Using U++ Random() function : upp_rand_a_b(" << a << ", " << b << ")";
Cout().PutEol();
for(int i=0; i<10; i++)
{
Cout() << upp_rand_a_b(a, b) << " ";
}

Cout().PutEol();
}

```

If similar function does not exist yet, could you add this to UPP Core.

Thank you
