Getting Stepped Random Values from Config

You would be familiar with retrieving a random value from the config by writing:

```
[Values]
Randoms = 0 ~ 1999
```

And in code:

```
if (orxConfig_PushSection("Values")){
    orxU32 value = orxConfig_GetU32("Randoms");
    orxLOG ("Value: %d", value);

    orxConfig_PopSection();
}
```

This will give you a random number, eg:

```
 Value: 1675
```

Stepped Integers

You can also define **stepped** random values using the following format:

```
[Values]
Angles = 0 ~ 45 ~ 360
```

```
orxU32 value = orxConfig_GetU32("Angles");
```

```
 Value: 270
```

In the example above, `0 ~ 45 ~ 360` would mean to define a range of values between 0 and 360, 45 steps apart.

Other examples would be:

```
 0 ~ 1 ~ 10  (standard number range of 1 to 10, steps of 1)
 0 ~ 1 ~ 1   (like a binary switch 0 or 1, same as 0 ~ 1)
 1 ~ 5 ~ 100 (1 to 100 in steps of 5)
 0 ~ 2 ~ 10  (an even number between 0 to 10)
```

Code examples

You can also do this from code using any of the following functions:

1. orxMath_GetSteppedRandomFloat
2. orxMath_GetSteppedRandomU32
3. orxMath_GetSteppedRandomS32
4. orxMath_GetSteppedRandomU64
5. orxMath_GetSteppedRandomS64

An example:

```
orxFLOAT val = orxMath_GetSteppedRandomFloat(1, 100, 2.1);
orxLOG ("Value: %f", val);
```

```
 11.50000
```

So the above would be floats 1 to 100 in steps of 2.1. You can get more details about those functions here: http://orx-project.org/orx/doc/html/group__orx_math.html

Stepped Vectors

A little tricker, but the same nonetheless:

```
[Values]
MyRandomVector = (1, 3, 5) ~ (0, 0.1) ~ (2, 4, 6)
```

- X will be unconstrained between 1 and 2 (step = 0)
- Y will be between 3 and 4 with a step of 0.1 and;
- Z will be unconstrained between 5 and 6 (no Z component, which means: Z = 0)

More details

You can get more detail and examples in the Creation Template here or in your local repo of Orx.

From:
https://www.orx-project.org/wiki/ - **Orx Learning**

Permanent link:
https://www.orx-project.org/wiki/en/tutorials/config/config_stepped_random_values?rev=1598876555

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