

# カウントダウンタイマークラスを作ってみよう z

## CDTimer.h

```
#pragma once
#include "Engine/GameObject.h"

class CDTimer :
    public GameObject
{
private:
    double CountdownTimer_; //現在の残り時間
    double TIMER_INIT_TIME_; //初期時間
    bool isTimerRun_; //タイマーが動いているかどうか?
    DWORD oldTime_;
public:
    //コンストラクタ
    //引数: parent 親オブジェクト (SceneManager)
    CDTimer(GameObject *parent);
    CDTimer(GameObject *parent, double _initTime);

    //初期化
    void Initialize() override;

    //更新
    void Update() override;

    //描画
    void Draw() override;

    //開放
    void Release() override;

public:

    bool IsTimeOver(); //タイマーは0になりましたか? YES? NO?
    void ResetTimer(); //タイマーを初期時間に戻す
    void StartTimer(); //タイマーをスタートします
    void StopTimer(); //タイマーをストップします
    void SetInitTime(double cdTime) { TIMER_INIT_TIME_ = cdTime; ResetTimer(); }
    double GetTime() { return(CountDownTimer_); }
};
```

## CDTimer.cpp

```
#include "CDTimer.h"

const int DEF_TIMER_TIME{ 5 };

CDTimer::CDTimer(GameObject* parent
    :TIMER_INIT_TIME_(DEF_TIMER_TIME),
    CountdownTimer_(DEF_TIMER_TIME),
    isTimerRun_(true)
)
{
    oldTime_ = timeGetTime();
};
```

```

CDTimer::CDTimer(GameObject* parent, double _initTime)
:TIMER_INIT_TIME_(initTime),
CountDownTimer_(initTime),
isTimerRun_(true)
{
oldTime_ = timeGetTime();
};

bool CDTimer::IsTimeOver()
{
return(CountDownTimer_ <= 0);
}

void CDTimer::ResetTimer()
{
CountDownTimer_ = TIMER_INIT_TIME_;
StartTimer();
}

void CDTimer::StartTimer()
{
isTimerRun_ = true;
}

void CDTimer::StopTimer()
{
isTimerRun_ = false;
}

void CDTimer::Initialize()
{
}

void CDTimer::Update()
{
DWORD nowTime = timeGetTime();
//下staticは要らんかった。。。
//static int deltaTime = nowTime - oldTime_;
int deltaTime = nowTime - oldTime_;
if (isTimerRun_)
CountDownTimer_ = CountDownTimer_ - (float)deltaTime/1000.0;
oldTime_ = nowTime;
}

void CDTimer::Draw()
{
}

void CDTimer::Release()
{
}

```

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