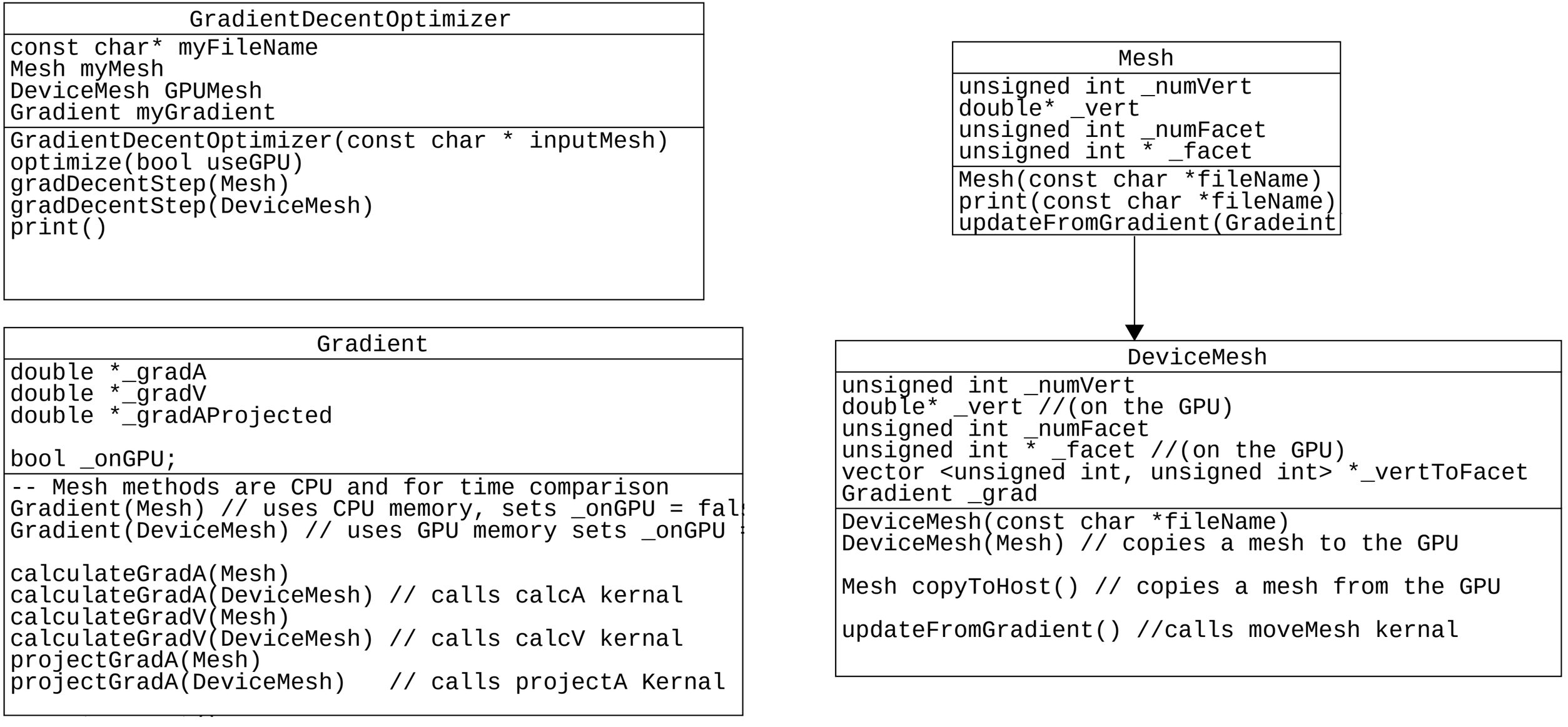
GradientDecentOptimizer
const char* myFileName
Mesh myMesh
DeviceMesh GPUMesh
Gradient myGradient
GradientDecentOptimizer(const char * inputMesh)
optimize(bool useGPU)
gradDecentStep(Mesh)
gradDecentStep(DeviceMesh)
print()
Mesh
unsigned int _numVert
double* _vert
unsigned int _numFacet
unsigned int * _facet
Mesh(const char *fileName)
print(const char *fileName)
updateFromGradient(Gradeint
Gradient
double *_gradA
double *_gradV
double *_gradAProjected
bool _onGPU;
-- Mesh methods are CPU and for time comparison
Gradient(Mesh) // uses CPU memory, sets _onGPU = fal
Gradient(DeviceMesh) // uses GPU memory sets _onGPU
calculateGradA(Mesh)
calculateGradA(DeviceMesh) // calls calcA kernal
calculateGradV(Mesh)
calculateGradV(DeviceMesh) // calls calcV kernal
projectGradA(Mesh)
projectGradA(DeviceMesh) // calls projectA Kernal
DeviceMesh
unsigned int _numVert
double* _vert //(on the GPU)
unsigned int _numFacet
unsigned int * _facet //(on the GPU)
vector <unsigned int, unsigned int> *_vertToFacet
Gradient _grad
DeviceMesh(const char *fileName)
DeviceMesh(Mesh) // copies a mesh to the GPU
Mesh copyToHost() // copies a mesh from the GPU
updateFromGradient() //calls moveMesh kernal