Streams from multiple HLS (HTTP Live Streaming) manifest files with multiple resolutions in a 30-second window

There are several classes defined: Segment, Playlist, and HLSManifest. The Segment class has two properties: resolution and url. The Playlist class has a vector of Segment objects and a method addSegment to add segments to the vector. The HLSManifest class has a map of Playlist objects, where the key is the resolution and the value is the Playlist object. It also has a method addPlaylist to add playlists to the map and a method `

```
#include <iostream>
#include <vector>
#include <map>
#include <fstream>
#include <sstream>
struct Segment {
 int resolution;
 std::string url;
class Playlist {
 public:
   std::vector<Segment> segments;
   void addSegment(Segment segment) {
     segments.push_back(segment);
};
class HLSManifest {
 private:
   std::map<int, Playlist> playlists;
 public:
    void addPlaylist(int resolution, Playlist playlist) {
     playlists[resolution] = playlist;
   std::string generateManifest() {
     std::string manifest = "#EXTM3U\n";
     for (const auto& playlist : playlists) {
       manifest += "#EXT-X-STREAM-INF:BANDWIDTH=" + std::to_string(playlist.first) + "\n";
       manifest += playlist.second.segments[0].url + "\n";
     return manifest;
};
std::vector<Segment> parseManifestFile(const std::string& filename) {
 std::vector<Segment> segments;
 std::ifstream file(filename);
 std::string line;
 while (std::getline(file, line)) {
   if (line.find("#EXT-X-STREAM-INF") != std::string::npos) {
     int bandwidth;
     std::stringstream ss(line.substr(line.find(":") + 1));
     ss >> bandwidth;
     std::getline(file, line);
     segments.push_back({ bandwidth, line });
 return segments;
int main() {
 HLSManifest hlsManifest;
 std::vector<std::string> filenames = { "manifest1.m3u8", "manifest2.m3u8" };
 for (const auto& filename : filenames) {
   std::vector<Segment> segments = parseManifestFile(filename);
   for (const auto& segment : segments) {
     Playlist playlist;
     playlist.addSegment(segment);
     hlsManifest.addPlaylist(segment.resolution, playlist);
 std::cout << hlsManifest.generateManifest() << std::endl;</pre>
 return 0;
}
```