|  |
| --- |
| Member |
| - username: string  - grade: string  - password: string  - grade\_cal: int |
| + drawmenu()  + checkgrade()  + upgrade()  + login(string check = “login”)  +CheckMember(filename: string, check: string): bool  + DeleteUser(filename: string)  + CreateAccount()  + getUsername(): string  + getGrade(): string |
|  |

|  |
| --- |
| Gold, Silver, Bronze |
| - gold\_member: vector<string>  + Gold()  + Gold\_update()  - silver\_member: vector<string>  + Silver()  + Silver\_update()  - bronze\_member: vector<string>  + Bronze()  + Bronze\_update() |

Is-a

|  |
| --- |
| Song |
| - popularity: int  - genre: string  - songName: string |
| + readFile()  + RandomPopularity() |

|  |
| --- |
| MusicPlayer |
| - song\_ballad: Ballad|  - song\_hiphop: Hiphop|  - song\_kpop: Kpop  + drawMenu()  + OutputMusic()  + OutputPlaylist()  + MakePlaylist()  + operator+()  + operator-() |

|  |
| --- |
| main |
| - drawMenu  + input(Member&member)  +//other methods |

|  |
| --- |
| Kpop, Ballad, Hiphop |
| -Ballad: vector<song>  -kpop: vector<song>  -Hiphop: vector<song> |
| +Ballad()  +Kpop  +Hiphop  +readFile()  +RandomPopularity() |

Use-a

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