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set_mhs = []

def Konso(e,L):
    return [e] + L

def FirstElmt(lst):
    return lst[0]

def Tail(lst):
    return lst[1:]

def IsEmpty(lst):
    return lst == []

def get_nim(mhs):
    return FirstElmt(mhs)

def get_nama(mhs):
    return FirstElmt(Tail(mhs))

def get_kelas(mhs):
    return FirstElmt(Tail(Tail(mhs)))

def get_nilai(mhs):
    return FirstElmt(Tail(Tail(Tail(mhs))))

def AvgElmt(L):
    if L == []:
        return 1
    else:
        return FirstElmt(L) / AvgElmt(Tail(L))

def MaxElmt(L):
    if OneElmt(L):
        return (FirstElmt(L))
    else:
        return MaxElmt(Tail(L))

def OneElmt(L):
    return NbElmt(L) == 1

def NbElmt(L):
    if IsEmpty(L):
        return 0
    else:
        return 1 + NbElmt(Tail(L))
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def MakeMhs(nim, nama, kelas, nilai):
    return (nim, nama, kelas, nilai)

def SetMhs(set_mhs, new_mhs):
    if IsEmpty(set_mhs):
        return [new_mhs]
    elif get_nim(FirstElmt(set_mhs)) == get_nim(new_mhs):
        return set_mhs
    else:
        return Konso(FirstElmt(set_mhs), SetMhs(Tail(set_mhs),
new_mhs))

def SiswaLolos(set_mhs):
    if IsEmpty(set_mhs):
        return []
    if AvgElmt(get_nilai(FirstElmt(set_mhs))) >= 70:
        return Konso(FirstElmt(set_mhs),
SiswaLolos(Tail(set_mhs)))
    else:
        return SiswaLolos(Tail(set_mhs))

def TidakMengerjakanQuiz(set_mhs, kelas):
    if IsEmpty(set_mhs):
        return []
    if get_kelas( FirstElmt(set_mhs)) == kelas and
IsEmpty(get_nilai( FirstElmt(set_mhs))):
        return Konso( FirstElmt(set_mhs),
TidakMengerjakanQuiz(Tail(set_mhs), kelas))
    else:
        return TidakMengerjakanQuiz(Tail(set_mhs), kelas)

def NilaiTertinggi(set_mhs):
    if IsEmpty(set_mhs):
        return 0
    else:
        if IsEmpty(get_nilai(FirstElmt(set_mhs))):
            return max(0, NilaiTertinggi(Tail(set_mhs)))
        else:
            return max(MaxElmt(get_nilai(FirstElmt(set_mhs))),
NilaiTertinggi(Tail(set_mhs)))

def SiswaNilaiTertinggi(set_mhs, kelas):

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    if IsEmpty(set_mhs):
        return None
    else:
        if get_kelas(FirstElmt(set_mhs)) == kelas:
            if SiswaNilaiTertinggi(Tail(set_mhs), kelas) is
None or MaxElmt(get_nilai(FirstElmt(set_mhs))) >
MaxElmt(get_nilai(SiswaNilaiTertinggi(Tail(set_mhs), kelas))):
                return FirstElmt(set_mhs)
            else:
                return SiswaNilaiTertinggi(Tail(set_mhs),
kelas)
        else:
            return SiswaNilaiTertinggi(Tail(set_mhs), kelas)

def JumlahLulus(set_mhs):
    if IsEmpty(set_mhs):
        return 0
    else:
        if AvgElmt(get_nilai(FirstElmt(set_mhs))) >= 70:
            return 1 + JumlahLulus(Tail(set_mhs))
        else:
            return JumlahLulus(Tail(set_mhs))

def JumlahTidakMengerjakan(set_mhs):
    if IsEmpty(set_mhs):
        return 0
    else:
        if IsEmpty(get_nilai(FirstElmt(set_mhs))):
            return 1 + JumlahTidakMengerjakan(Tail(set_mhs))
        else:
            return JumlahTidakMengerjakan(Tail(set_mhs))

set_mhs = SetMhs(set_mhs, MakeMhs('234', 'Andi', 'C', []))
set_mhs = SetMhs(set_mhs, MakeMhs('123', 'Caca', 'C', [90, 80,
100]))
set_mhs = SetMhs(set_mhs, MakeMhs('225', 'Budi', 'B', [85, 75,
95]))

print(SiswaLolos(set_mhs))
print(TidakMengerjakanQuiz(set_mhs, 'C'))
print(SiswaNilaiTertinggi(set_mhs, 'A'))
print(NilaiTertinggi(set_mhs))
print(JumlahTidakMengerjakan(set_mhs))
print(JumlahLulus(set_mhs))

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