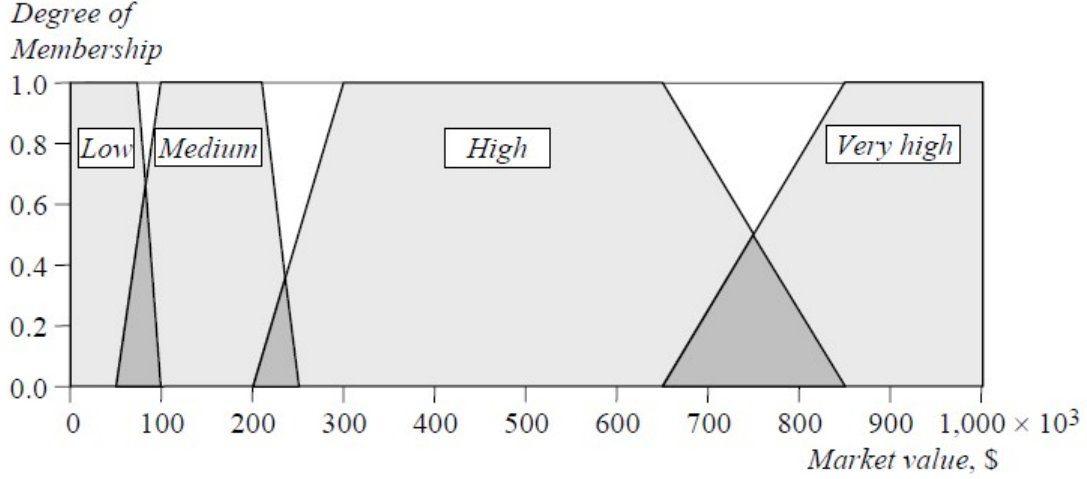


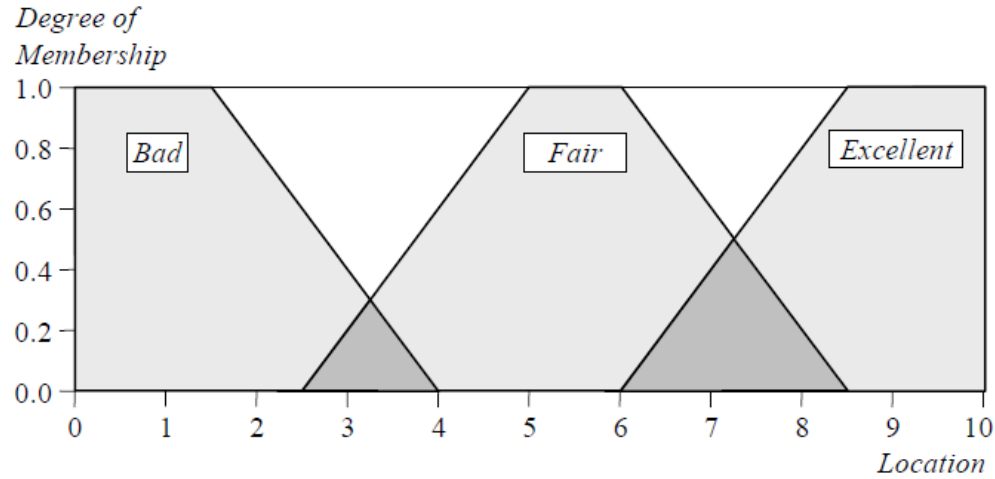
Bulanık mantık karar verme problemlerinde kullanılmaktadır. Bu projede ev kredisi çekecek bir kişi için evin özellikleri ve krediyi çekecek kişinin bilgileri kullanılarak bankalar tarafından kredi miktarına karar verilebilmesini sağlayacak bir karar destek sistemi geliştireceksiniz.

Elimizde bulunan değişkenler aşağıdaki girdi üyelik fonksiyonlarıyla tanımlanacaktır:

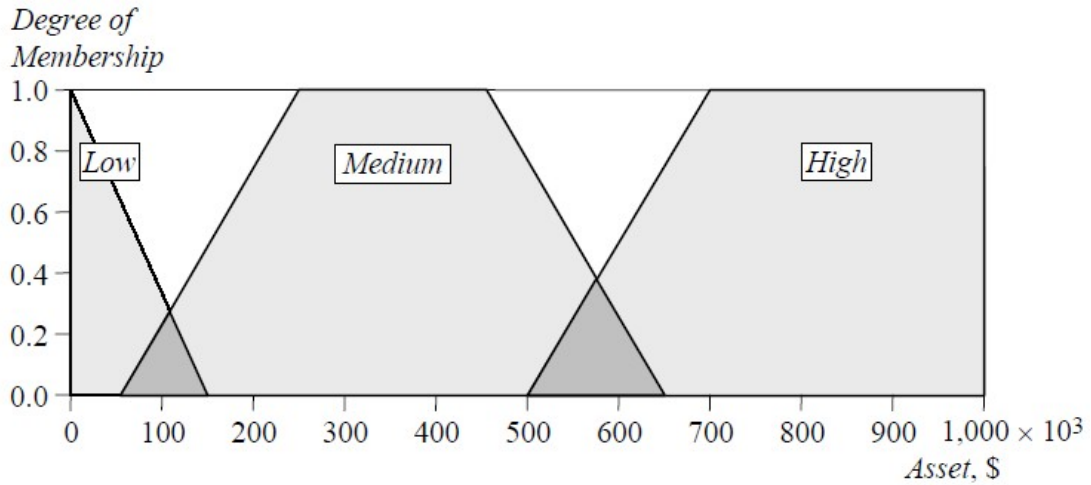
### 1. Evin piyasa değeri:



### 2. Evin konumu:

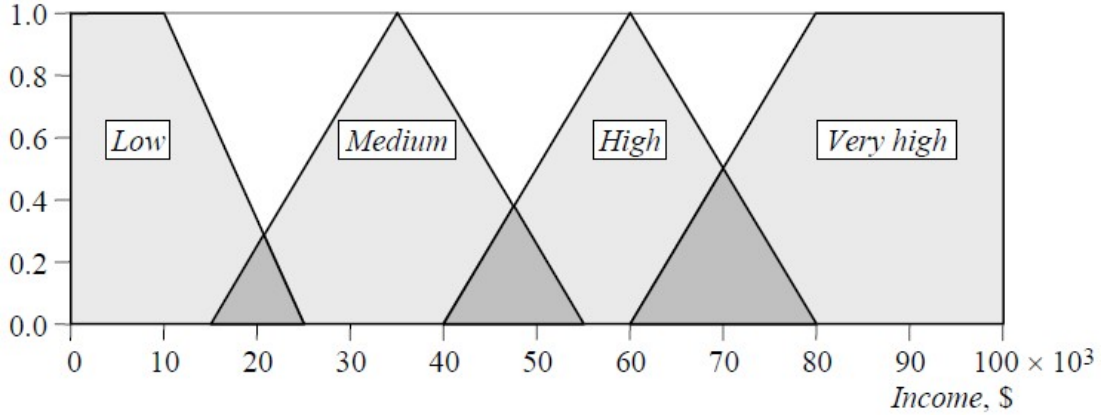


### 3. Başvuran kişinin malvarlığı:



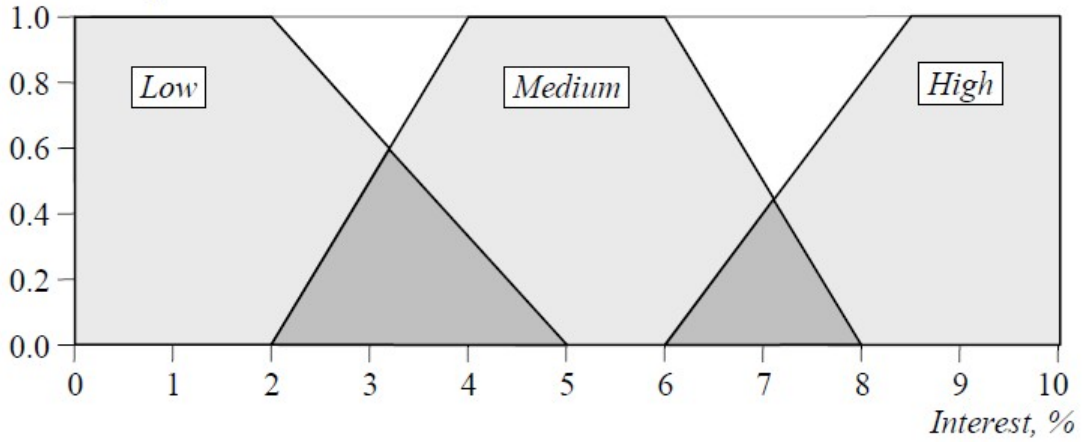
#### 4. Başvuran kişinin geliri:

*Degree of Membership*



#### 5. Faiz oranı:

*Degree of Membership*

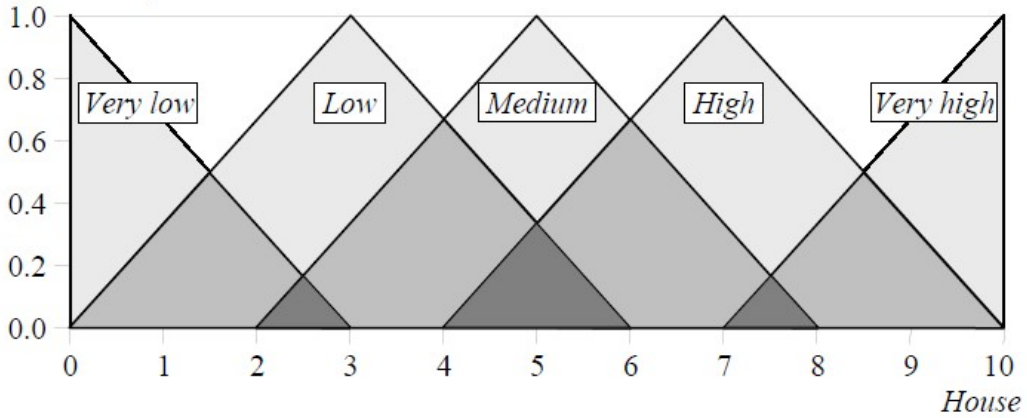


Verilen bilgilere göre ilk önce evin değerlendirilmesi yapılacak, sonrasında başvuran kişinin değerlendirilmesi yapılacak ve en sonunda da kredi miktarına karar verilecektir.

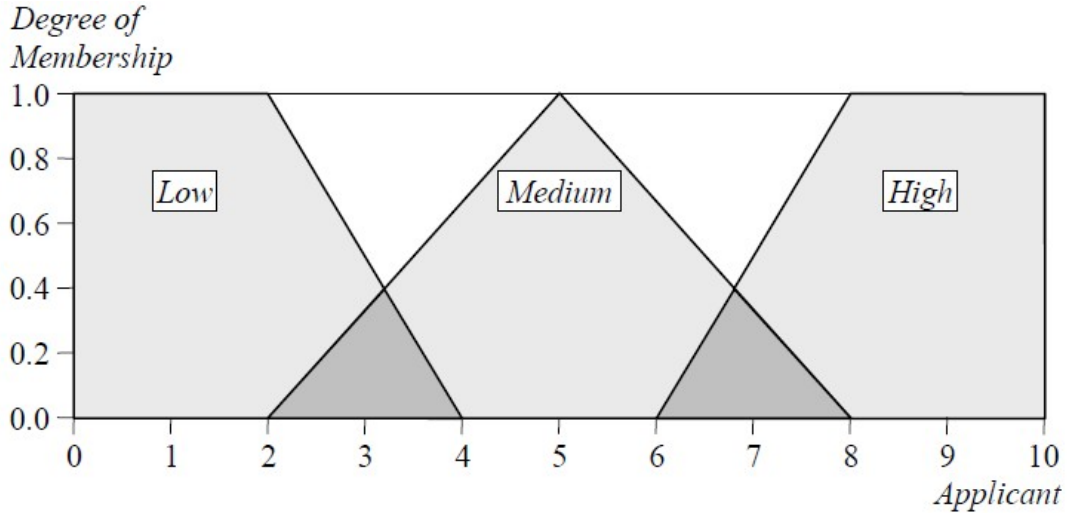
Buna göre 3 adet çıktı üyelik fonksiyonumuz da aşağıdaki gibidir:

#### 1. Evin değerlendirilmesi:

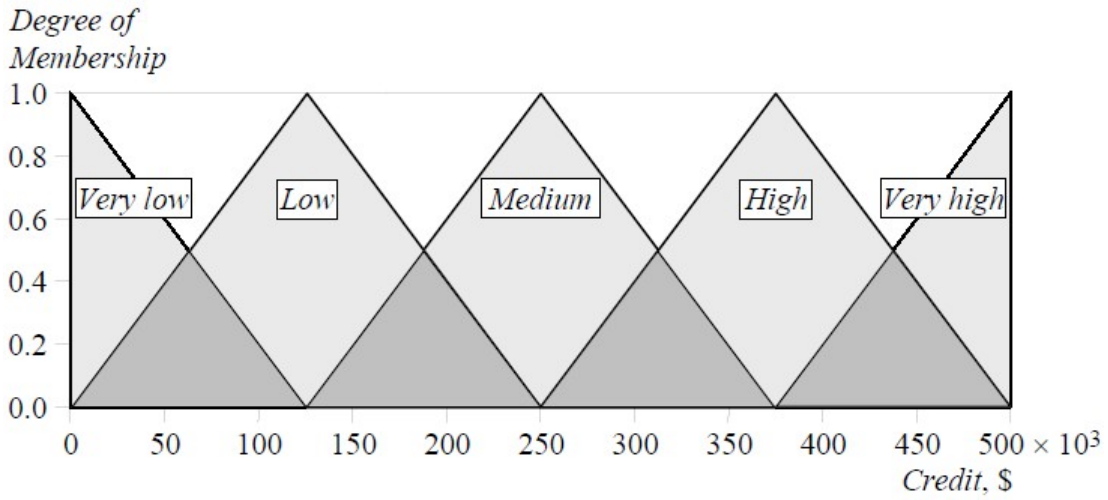
*Degree of Membership*



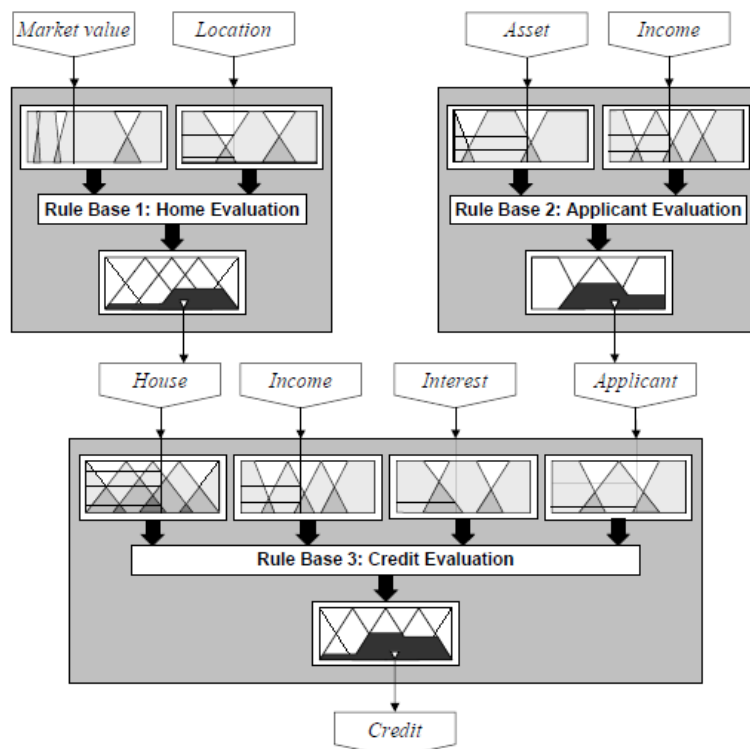
## 2. Başvuran kişinin değerlendirilmesi:



## 3. Kredi miktarının değerlendirilmesi



Verilen girdi üyelik fonksiyonlarını aşağıdaki hiyerarşik yapıyı kullanarak ilk önce evin, başvuran kişinin değerlendirmesini yaparak en sonunda da bu değerlendirmeden gelen bilgiyi de kullanarak banka tarafından verilecek kredi miktarını hesaplamamız gerekmektedir.



## Değerlendirmede kullanılacak kurallar

### 1. Evin değerlendirilmesi

1. If (Market\_value is Low) then (House is Low)
2. If (Location is Bad) then (House is Low)
3. If (Location is Bad) and (Market\_value is Low) then (House is Very\_low)
4. If (Location is Bad) and (Market\_value is Medium) then (House is Low)
5. If (Location is Bad) and (Market\_value is High) then (House is Medium)
6. If (Location is Bad) and (Market\_value is Very\_high) then (House is High)
7. If (Location is Fair) and (Market\_value is Low) then (House is Low)
8. If (Location is Fair) and (Market\_value is Medium) then (House is Medium)
9. If (Location is Fair) and (Market\_value is High) then (House is High)
- 10.If (Location is Fair) and (Market\_value is Very\_high) then (House is Very\_high)
- 11.If (Location is Excellent) and (Market\_value is Low) then (House is Medium)
- 12.If (Location is Excellent) and (Market\_value is Medium) then (House is High)
- 13.If (Location is Excellent) and (Market\_value is High) then (House is Very\_high)
- 14.If (Location is Excellent) and (Market\_value is Very\_high) then (House is Very\_high)

### 2. Başvuran kişinin değerlendirilmesi

1. If (Asset is Low) and (Income is Low) then (Applicant is Low)
2. If (Asset is Low) and (Income is Medium) then (Applicant is Low)
3. If (Asset is Low) and (Income is High) then (Applicant is Medium)
4. If (Asset is Low) and (Income is Very\_high) then (Applicant is High)
5. If (Asset is Medium) and (Income is Low) then (Applicant is Low)
6. If (Asset is Medium) and (Income is Medium) then (Applicant is Medium)
7. If (Asset is Medium) and (Income is High) then (Applicant is High)
8. If (Asset is Medium) and (Income is Very\_high) then (Applicant is High)
9. If (Asset is High) and (Income is Low) then (Applicant is Medium)
- 10.If (Asset is High) and (Income is Medium) then (Applicant is Medium)
- 11.If (Asset is High) and (Income is High) then (Applicant is High)
- 12.If (Asset is High) and (Income is Very\_high) then (Applicant is High)

### Kredi miktarının değerlendirilmesi

1. If (Income is Low) and (Interest is Medium) then (Credit is Very\_low)
2. If (Income is Low) and (Interest is High) then (Credit is Very\_low)
2. If (Income is Medium) and (Interest is High) then (Credit is Low)
4. If (Applicant is Low) then (Credit is Very\_low)
5. If (House is Very\_low) then (Credit is Very\_low)
6. If (Applicant is Medium) and (House is Very\_low) then (Credit is Low)
7. If (Applicant is Medium) and (House is Low) then (Credit is Low)
8. If (Applicant is Medium) and (House is Medium) then (Credit is Medium)
9. If (Applicant is Medium) and (House is High) then (Credit is High)
- 10.If (Applicant is Medium) and (House is Very\_high) then (Credit is High)
- 11.If (Applicant is High) and (House is Very\_low) then (Credit is Low)
- 12.If (Applicant is High) and (House is Low) then (Credit is Medium)
- 13.If (Applicant is High) and (House is Medium) then (Credit is High)
- 14.If (Applicant is High) and (House is High) then (Credit is High)
- 15.If (Applicant is High) and (House is Very\_high) then (Credit is Very\_high)

**Proje Gereksinimleri:**

1. Sonuçlarınızı gösterirken **en az 3 farklı başvuran kişiye** istedikleri farklı evler için verilmesi gereken kredi miktarını göstermeniz gerekmektedir.
2. Geliştireceğiniz sistem **Mamdani çıkarım yöntemini** kullanarak sonuç üretmelidir.
3. Projenizi en fazla 3 kişiden oluşan gruplarla geliştirmelisiniz. Demo için tüm grup üyelerinin hazır olması gerekmektedir.
4. Teslim ve sunum tarihi: **23 Mayıs 2017 - Ders saati**