

```
def transactions(agent_array, tr_num):  
    people = copy.copy(agent_array)  
    total_money_begin = sum(agent_array)  
    current = 1  
    while current <= tr_num:  
        i = random.randint(0, len(agent_array)-1)  
        j = random.randint(0, len(agent_array)-1)  
        m_i = people[i]  
        m_j = people[j]  
        total_m = m_i + m_j  
        epsilon = random.uniform(0, 1)  
        current += 1  
        if people[i]>0 and people[j]>0:  
            people[i] = epsilon*total_m  
            people[j] = (1-epsilon)*total_m  
        else:  
            continue  
  
    total_money_end = sum(people)  
    #print(total_money_begin, total_money_end)  
  
    return people
```