```python
def binary_tournament_dom_cd(pop, n):
    """Parent selection
    Binary tournament based on dominace rank and crowding distance
    Performs a given number of tournaments and adds winners to a pool of

    Parameters
    ----------
    pop: Population
        Population where to select parents from
    n: integer
        Number of tournaments (number of parents to be selected)

    Returns
    -------
    Population
        Population of selected parents

    """

    parents = []
    #repeat n binaty tournaments
    for k in range(0,n):
        i = random.randint(0,len(pop)-1)
        j = random.randint(0,len(pop)-1)
        j = (i+j)%len(pop)
        # decibe by first rank, dominance
        # lower rank[0] better
        if pop[i].rank[0] != pop[j].rank[0]:
            #print("rank 1",  pop[i].rank[0], pop[j].rank[0])
            if pop[i].rank[0] < pop[j].rank[0]:
                parents.append(pop[i])
            else:
                parents.append(pop[j])
        else: #decide by secondary rank if same primary rank
            #print("rank 2", pop[i].rank[0], pop[j].rank[0])
            # larger rank[1] is better (crowding distance)
            if pop[i].rank[1] > pop[j].rank[1]:
                parents.append(pop[i])
            else:
                parents.append(pop[j])

    return parents
```