TÜRKİYE CUMHURİYETİ

YILDIZ TEKNİK ÜNİVERSİTESİ

BİLGİSAYAR MÜHENDİSLİĞİ BÖLÜMÜ

VERİ YAPILARI VE ALGORİTMALARI İKİNCİ ÖDEV RAPORU

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Ders/Grup: BLM2512 Veri Yapıları ve Algoritmaları/ 1.Grup

Ders Yürütücüsü

PROF DR MİNE ELİF KARSLIGİL

18 Nisan 2023

Video Linki:
https://drive.google.com/file/d/14RDoe38vNI7b3vlcQYh5ONRC3Af9kF3S/view?usp=sharing

NOT: Print işlemleri sadece level bazlıdır.

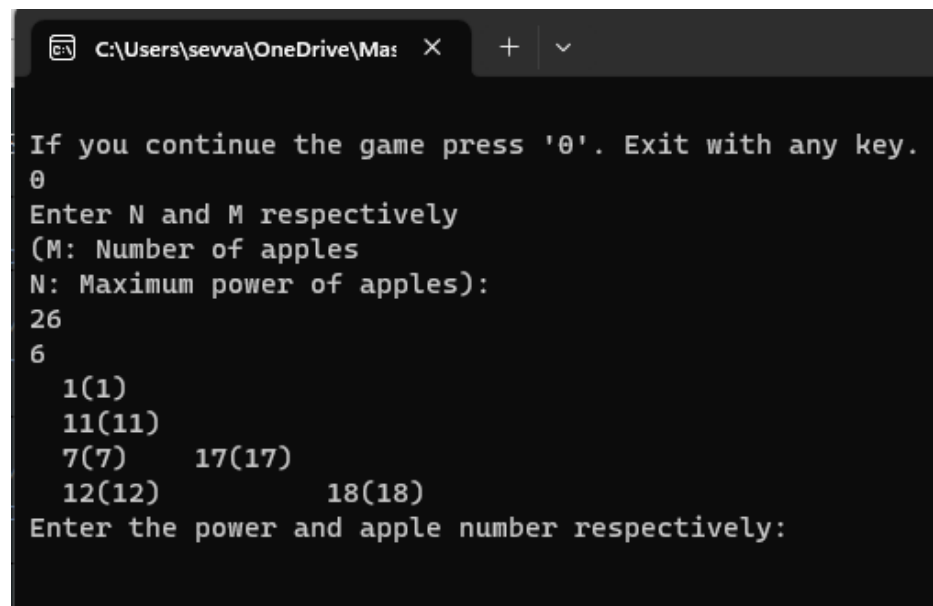**Parantez içlerinde kalan power değerleri yazmaktadır.**

- **BİRİNCİ ÖRNEK:**

   N(Maximum power): 26   **M(Node Sayısı): 6**

   Düşürülecek Sıra → 11- 17- 12- 18- 1- 7

   Random Girdilerle Oluşan Ağaç:

```
If you continue the game press '0'. Exit with any key.
0
Enter N and M respectively
(M: Number of apples
N: Maximum power of apples):
26
6
  1(1)
  11(11)
  7(7)    17(17)
  12(12)          18(18)
Enter the power and apple number respectively:
```

Power : 6   Node : 11   → Değerinden Küçük Power ile Vurma


```
C:\Users\sevva\OneDrive\Mas   X   +

If you continue the game press '0'. Exit with any key.
0
Enter N and M respectively
(M: Number of apples
N: Maximum power of apples):
26
6
  1(1)
  11(11)
  7(7)    17(17)
  12(12)         18(18)
Enter the power and apple number respectively:
6
11
Apple: 11 Apple's Resedual Power: 5
  1(1)
  11(5)
  7(7)    17(17)
  12(12)          18(18)
Enter the power and apple number respectively:
```

Power : 10   Node: 11   → Kalan Değerinden Büyük Power ile

Düşürme


```
  1(1)
  11(5)
  7(7)     17(17)
  12(12)          18(18)
Enter the power and apple number respectively:
10
11
Apple: 11 Apple's Resedual Power: -5
11 is dropped.
  1(1)
  12(12)
  7(7)     17(17)
  18(18)
Enter the power and apple number respectively:
```

Power: 7   **Node: 17**   → **Değerinden Küçük Power ile Vurma**

Power: 4   **Node: 17**   → **Değerinden Küçük Power ile Vurma**

```
Enter the power and apple number respectively:
7
17
Apple: 17 Apple's Resedual Power: 10
  1(1)
  12(12)
  7(7)    17(10)
  18(18)
Enter the power and apple number respectively:
4
17
Apple: 17 Apple's Resedual Power: 6
  1(1)
  12(12)
  7(7)    17(6)
  18(18)
```

Power: 8   **Node: 17**   → **Kalan Değerinden Büyük Power ile**
                                    Düşürme

```
Apple: 17 Apple's Resedual Power: 6
  1(1)
  12(12)
  7(7)    17(6)
  18(18)
Enter the power and apple number respectively:
8
17
Apple: 17 Apple's Resedual Power: -2
17 is dropped.
  1(1)
  12(12)
  7(7)    18(18)
```

Power: 12   **Node: 12**   → **Tam Power ile Düşürme**

```
  1(1)
  12(12)
  7(7)    18(18)
Enter the power and apple number respectively:
12
12
Apple: 12 Apple's Resedual Power: 0
12 is dropped.
  1(1)
  18(18)
  7(7)
Enter the power and apple number respectively:
```

Power: 20   **Node: 18**   → **Büyük Power ile Düşürme**

```
  1(1)
  18(18)
  7(7)
Enter the power and apple number respectively:
20
18
Apple: 18 Apple's Resedual Power: -2
18 is dropped.
  1(1)
  7(7)
Enter the power and apple number respectively:
```

Power: 2	Node: 1	→ **Büyük Power ile Düşürme**
Power: 7	Node: 7	→ **Tam Power ile Düşürme**

Kovadaki Elmalar Listesi En Sonda Verilmiştir:

```
   1(1)
   7(7)
Enter the power and apple number respectively:
2
1
Apple: 1 Apple's Resedual Power: -1
1 is dropped.
   7(7)
Enter the power and apple number respectively:
7
7
Apple: 7 Apple's Resedual Power: 0
7 is dropped.
List of the apples by their dropped order:
 11  17  12  18  1  7
If you continue the game press '0'. Exit with any key.
```

- **İKİNCİ ÖRNEK:**

  N(Maximum power):17   **M(Node Sayısı): 4**

  Düşürülecek Sıra → 14-5-9-12

  Random Girdilerle Oluşan Ağaç:

```
If you continue the game press '0'. Exit with any key.
0
Enter N and M respectively
(M: Number of apples
N: Maximum power of apples):
17
4
  14(14)
  5(5)
  12(12)
  9(9)
Enter the power and apple number respectively:
```

Power: 2   **Node: 1**   → **Olmayan Elmayı Düşürmek**

```
  14(14)
  5(5)
  12(12)
  9(9)
Enter the power and apple number respectively:
2
1
Given value is not on the tree.
Apple already dropped from tree or not on the tree.
  14(14)
  5(5)
  12(12)
  9(9)
Enter the power and apple number respectively:
```

Power: 7   **Node: 14**   → **Değerinden Küçük Power ile Vurma**

Power: 6   **Node: 12**   → **Değerinden Küçük Power ile Vurma**

```
Enter the power and apple number respectively:
7
14
Apple: 14 Apple's Resedual Power: 7
  14(7)
  5(5)
  12(12)
  9(9)
Enter the power and apple number respectively:
6
12
Apple: 12 Apple's Resedual Power: 6
  14(7)
  5(5)
  12(6)
  9(9)
Enter the power and apple number respectively:
```

Power: 7   **Node: 14**   → **Tam Power ile Düşürme**

```
5(5)
Enter the power and apple number respectively:
7
14
Apple: 14 Apple's Resedual Power: 0
14 is dropped.
  5(5)
  12(6)
  9(9)
Enter the power and apple number respectively:
```

Power: 8   **Node: 5**   → **Büyük Power ile Düşürme**

```
  5(5)
  12(6)
  9(9)
Enter the power and apple number respectively:
8
5
Apple: 5 Apple's Resedual Power: -3
5 is dropped.
  12(6)
  9(9)
Enter the power and apple number respectively:
```

Power: 5   **Node: 12**   → **Değerinden Küçük Power ile Vurma**

```
Enter the power and apple number respectively:
5
12
Apple: 12 Apple's Resedual Power: 1
  12(1)
  9(9)
Enter the power and apple number respectively:
```

Power: 9   **Node: 9**   **→ Tam Power ile Düşürme**

```
  12(1)
  9(9)
Enter the power and apple number respectively:
9
9
Apple: 9 Apple's Resedual Power: 0
9 is dropped.
  12(1)
Enter the power and apple number respectively:
```

Power: 1   **Node: 12**   **→ Tam Power ile Düşürme**

Kovadaki Elmalar Listesi En Sonda Verilmiştir.

```
  12(1)
Enter the power and apple number respectively:
1
12
Apple: 12 Apple's Resedual Power: 0
12 is dropped.
List of the apples by their dropped order:
 14  5  9  12
```