hw1-2

October 13, 2024

[ ]:
```python
#Birthday Cake Candles
import math
import os
import random
import re
import sys


def birthdayCakeCandles(candles):
    max_val=max(candles)
    return candles.count(max_val)



if __name__ == '__main__':
    fptr = open(os.environ['OUTPUT_PATH'], 'w')

    candles_count = int(input().strip())

    candles = list(map(int, input().rstrip().split()))

    result = birthdayCakeCandles(candles)

    fptr.write(str(result) + '\n')

    fptr.close()
```

[ ]:
```python
#Number Line Jumps
import math
import os
import random
import re
import sys

def kangaroo(x1, v1, x2, v2):
  if (x2 > x1 and v2 > v1) or (x2 > x1 and v1 == v2):
    return 'NO'
```

```
  elif (x2-x1) % (v1-v2) == 0:
    return 'YES'
  else:
    return 'NO'



if __name__ == '__main__':
    fptr = open(os.environ['OUTPUT_PATH'], 'w')

    first_multiple_input = input().rstrip().split()

    x1 = int(first_multiple_input[0])

    v1 = int(first_multiple_input[1])

    x2 = int(first_multiple_input[2])

    v2 = int(first_multiple_input[3])

    result = kangaroo(x1, v1, x2, v2)

    fptr.write(result + '\n')

    fptr.close()
```

[ ]:
```
#Viral Advertidsing
import math
import os
import random
import re
import sys

def viralAdvertising(n):
    total = 0
    k = 5//2
    for i in range(n):
        total = total + k
        k = (k*3)//2

    return total


if __name__ == '__main__':
    fptr = open(os.environ['OUTPUT_PATH'], 'w')

    n = int(input().strip())
```

```
    result = viralAdvertising(n)

    fptr.write(str(result) + '\n')

    fptr.close()
```

[ ]:
```
#Recursive Digit Sum
import math
import os
import random
import re
import sys

def superDigit(n, k):
    if len(n)<2:
        return n
    else:
        Sum=k*sum([int(char) for char in n])
    return superDigit(str(Sum), 1)



if __name__ == '__main__':
    fptr = open(os.environ['OUTPUT_PATH'], 'w')

    first_multiple_input = input().rstrip().split()

    n = first_multiple_input[0]

    k = int(first_multiple_input[1])

    result = superDigit(n, k)

    fptr.write(str(result) + '\n')

    fptr.close()
```

[ ]:
```
#Insertion Sort - Part 1
import math
import os
import random
import re
import sys


def insertionSort1(n, arr):
```

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    last = arr[n-1]
    i = n-2
    while i >= 0 and arr[i] > last:
          arr[i+1] = arr[i]
          print(" ".join(map(str, arr)))
          i -= 1
    arr[i+1] = last
    print(" ".join(map(str, arr)))


if __name__ == '__main__':
    n = int(input().strip())

    arr = list(map(int, input().rstrip().split()))

    insertionSort1(n, arr)
```

[ ]:
```
#Insertion Sort - Part 2
```