

# **COLLECTION OF AI LAB EXPERIMENTS**

A COURSE REPORT

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**CSE A1 SECTION**  
**6th Sem**  
**B.Tech CSE**

Under the guidance of

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of  
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**BONAFIDE CERTIFICATE**

Certified that this report

**"AI LAB EXPERIMENTS RECORD"**

is the Bonafide work of **Abhinav Ranjan**

who carried out the experiments under my supervision.

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## **AI LAB EXP 1 - TOY PROBLEMS**

(PYTHON)

### 1. CAMEL AND BANANA

#### **PROBLEM STATEMENT**

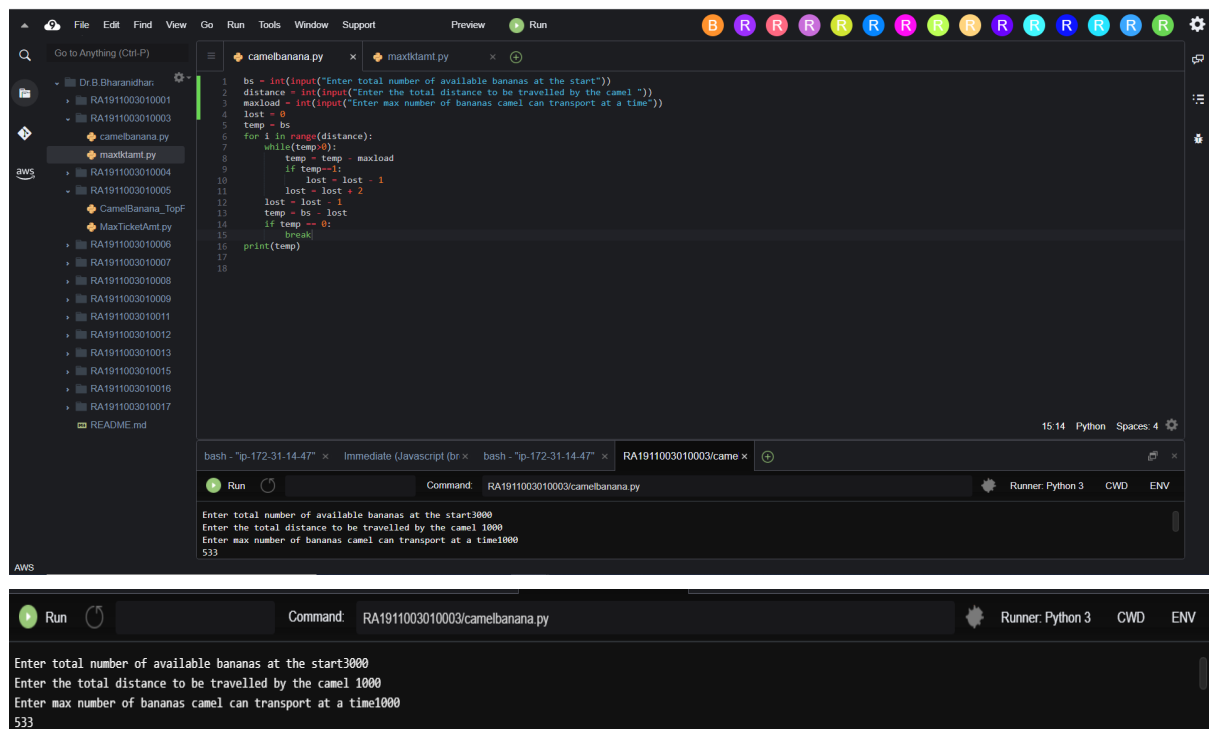
A person wants to transfer bananas over to a destination A km away. He initially has B bananas and a camel. The camel cannot carry more than C bananas at a time and eats a banana every km it travels. Given three integers A, B, and C, the task is to find the maximum number of bananas the person can transfer to the destination using the camel.

**TOOLS USED** - python3 , AWS

#### **CODE :**

```
bs = int(input("Enter total number of available bananas at the start"))
distance = int(input("Enter the total distance to be travelled by the camel "))
maxload = int(input("Enter max number of bananas camel can transport at a time"))
lost = 0
temp = bs
for i in range(distance):
    while(temp>0):
        temp = temp - maxload
        if temp==1:
            lost = lost - 1
            lost = lost + 2
        lost = lost - 1
        temp = bs - lost
        if temp == 0:
            break
print(temp)
```

## SCREENSHOTS :



The first screenshot shows a code editor with a file explorer on the left and a code editor on the right. The file explorer shows a directory structure with files like 'camelbanana.py' and 'maxktamt.py'. The code editor shows the following Python code:

```
1 bs = int(input("Enter total number of available bananas at the start:"))
2 distance = int(input("Enter the total distance to be travelled by the camel "))
3 maxload = int(input("Enter max number of bananas camel can transport at a time"))
4 lost = 0
5 temp = bs
6 for i in range(distance):
7     while(temp>0):
8         temp = temp - maxload
9         if temp<1:
10             lost = lost - 1
11             lost = lost + 2
12             lost = lost - 1
13             temp = bs - lost
14             if temp == 0:
15                 break
16             print(temp)
17
18
```

The second screenshot shows the execution output of the code. The command is 'RA1911003010003/camelbanana.py'. The output is:

```
Enter total number of available bananas at the start3000
Enter the total distance to be travelled by the camel 1000
Enter max number of bananas camel can transport at a time1000
533
```

## 2. MAXIMISING TICKET AMOUNT

### PROBLEM STATEMENT :

Given array seats[] where seat[i] is the number of vacant seats in the ith row in a stadium for a cricket match. There are N people in a queue waiting to buy the tickets. Each seat costs equal to the number of vacant seats in the row it belongs to. The task is to maximise the profit by selling the tickets to N people.

**TOOLS** - python3 , AWS

### CODE :

```
m = int(input("Enter number of people standing in queue"))
n = int(input("Enter number of rows which are vacant"))
totalearning = 0
list = []
for i in range(0,n):
    ele = int(input())
```

```

list.append(ele)
for i in range(0,m):
    list.sort(reverse=True)
    totalearning = totalearning + list[0]
    list[0]=list[0]-1
    list.sort(reverse=True)
    if(list[0]<=0):
        break
print("Thus the total number of money earned by maximising ticket amount is ")
print(totalearning)

```

## SCREENSHOTS:

The first screenshot shows a code editor with a file explorer on the left and a code editor on the right. The file explorer shows a directory structure with files like 'camelbanana.py', 'maxtkamt.py', and 'README.md'. The code editor shows the following Python code:

```

1 m = int(input("Enter number of people standing in queue"))
2 n = int(input("Enter number of rows which are vacant"))
3 totalearning = 0
4 list = []
5 for i in range(0,n):
6     ele = int(input())
7     list.append(ele)
8 for i in range(0,m):
9     list.sort(reverse=True)
10    totalearning = totalearning + list[0]
11    list[0]=list[0]-1
12    list.sort(reverse=True)
13    if(list[0]<=0):
14        break
15 print("Thus the total number of money earned by maximising ticket amount is ")
16 print(totalearning)

```

The second screenshot shows the execution output of the code. The command prompt shows the command 'RA1911003010003/maxtkamt.py' and the output is:

```

Enter number of people standing in queue 3
Enter number of rows which are vacant 3
1
2
Thus the total number of money earned by maximising ticket amount is
9

```