

Problem – 6 : You are given an array/list 'ARR' consisting of 'N' non-negative integers. You are also given a list 'QUERIES' consisting of 'M' queries, where the 'i-th' query is a list/array of two non-negative integers 'Xi', 'Ai', i.e 'QUERIES[i]' = ['Xi', 'Ai']. The answer to the ith query, i.e 'QUERIES[i]' is the maximum bitwise xor value of 'Xi' with any integer less than or equal to 'Ai' in 'ARR'. You should return an array/list consisting of 'N' integers where the 'i-th' integer is the answer of 'QUERIES[i]'.

```
def max_bitwise_xor(N, ARR, M, QUERIES):
```

```
    result = []
```

```
    for query in QUERIES:
```

```
        Xi, Ai = query
```

```
        max_xor = -1
```

```
        for num in ARR:
```

```
            if num <= Ai:
```

```
                max_xor = max(max_xor, Xi ^ num)
```

```
        result.append(max_xor)
```

```
    return result
```

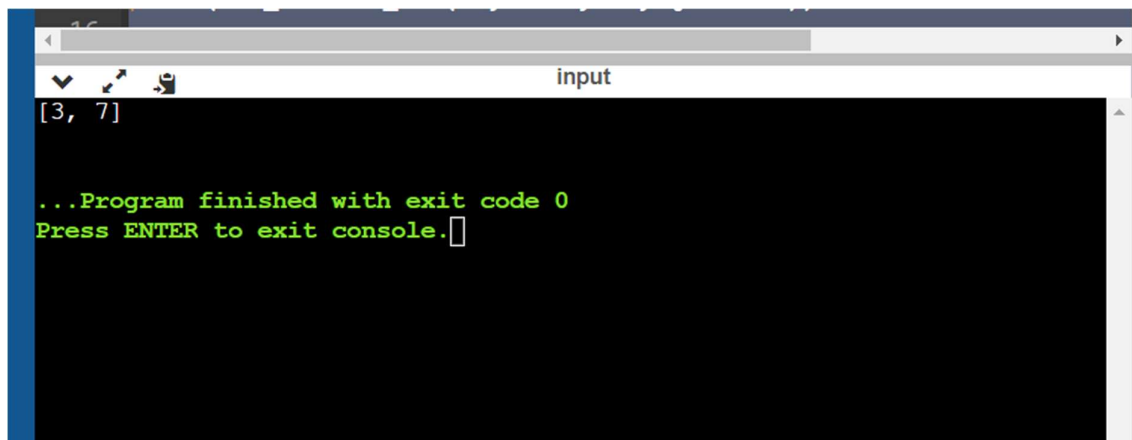
```
N1 = 5
```

```
ARR1 = [0, 1, 2, 3, 4]
```

```
M1 = 2
```

```
QUERIES1 = [[1, 3], [5, 6]]
```

```
print(max_bitwise_xor(N1, ARR1, M1, QUERIES1))
```

A screenshot of a terminal window with a dark background. The title bar at the top says "input". The terminal shows the output of the program: "[3, 7]" on the first line, followed by "...Program finished with exit code 0" and "Press ENTER to exit console." on the next line. The cursor is at the end of the second line.