Consider the following program:

```python
def mystery(x):
    print(x)
    if (x == 1):
        # stack Q1
        return 1
    else:
        return x + mystery(x/2)

def main():
    n = 8
    result = mystery(n)
    print("Result: %d" % (result))

main()
```

1. Draw the stack as it appears when the program reaches the line `#stack Q1`.
2. What output is produced by the whole program?