```python
#Solve the below question and provide the output

a = 10
b = 4

#Print bitwise AND operation
print(a & b)

#Print bitwise OR operation
print(a | b)

#Print bitwise NOT operation
print(~a)

#Print bitwise XOR operation
print(a ^ b)

#print bitwise right shift operation
print(a >> 2)

#print bitwise left shift operation
print(a << 2)
```

```
0
14
-11
14
2
40
```

```python
# Check if a string contains a vowel using membership operators.

string=input()

for char in string:
    if char in "aeiou":
        print("string contains vowel:",char)

    else:
        pass
```

```
 internship
string contains vowel: i
string contains vowel: e
string contains vowel: i
```

```python
# Solve the expression 5 + 3 * 2 - 8 // 3 and explain the result based on operator precedence

exp=5 + 3 * 2 - 8 // 3

'''
highest precedence operator is // (floar division) 8//3=2
then solve multiplication 3*2=6
5 + 6 - 2 = 11-2 =  9
'''

print(exp)
```

9

```python
# Compare two variables using the is and is not operators

#compare two integer variables
var1=int(input())
var2=int(input())
print(var1 is var2)

# compare two string
str_var=input()
str_var1=input()

print(str_var is not str_var1)
```

```
 23
 23
True
 "mona"
 "maya"
True
```