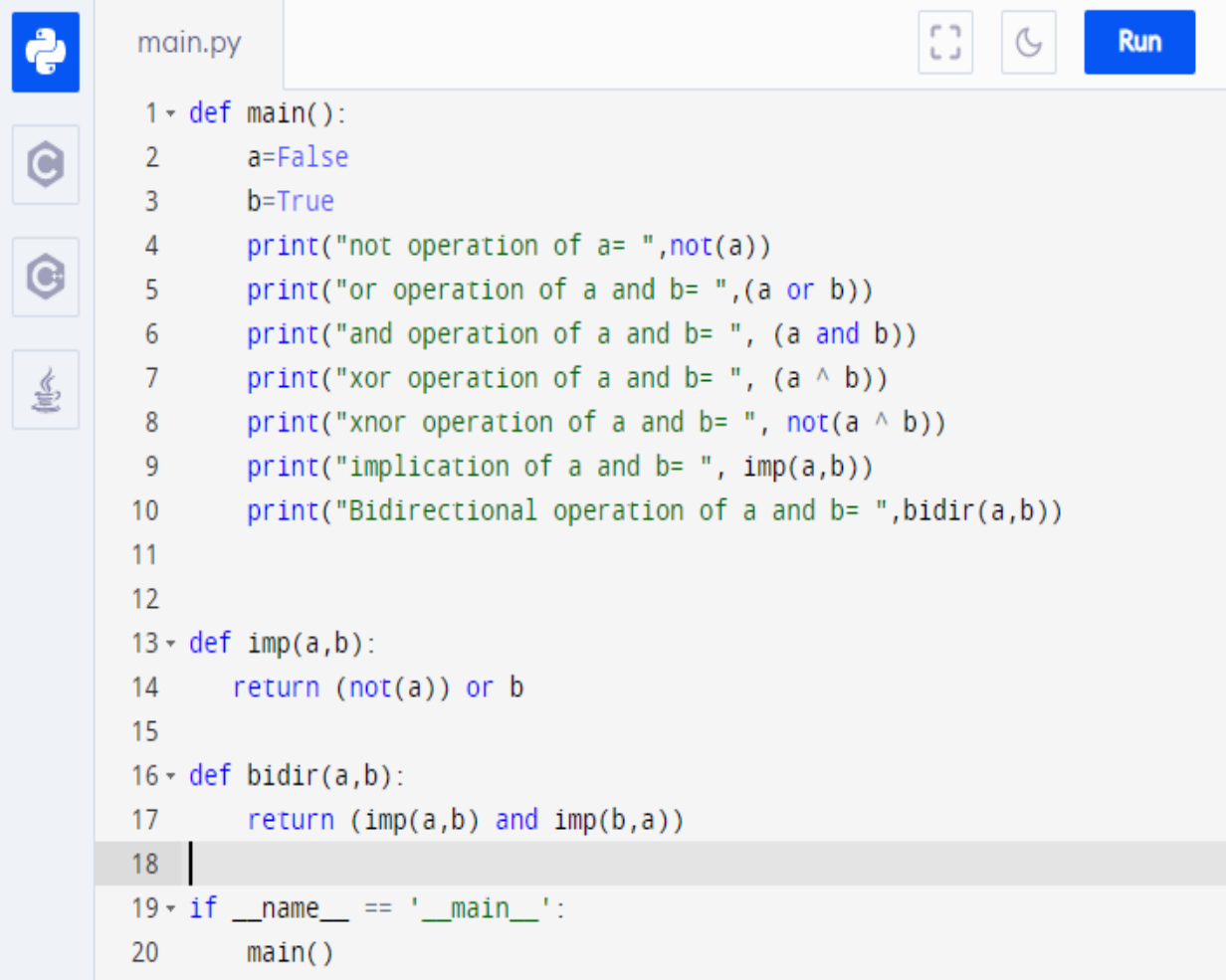


Program 1

Implement the propositional basic logic gates along with implies and biconditional



```
main.py
1 def main():
2     a=False
3     b=True
4     print("not operation of a= ",not(a))
5     print("or operation of a and b= ",(a or b))
6     print("and operation of a and b= ", (a and b))
7     print("xor operation of a and b= ", (a ^ b))
8     print("xnor operation of a and b= ", not(a ^ b))
9     print("implication of a and b= ", imp(a,b))
10    print("Bidirectional operation of a and b= ",bidir(a,b))
11
12
13 def imp(a,b):
14     return (not(a)) or b
15
16 def bidir(a,b):
17     return (imp(a,b) and imp(b,a))
18
19 if __name__ == '__main__':
20     main()
```

Output

Shell

Clear

```
not operation of a= True
or operation of a and b= True
and operation of a and b= False
xor operation of a and b= True
xnor operation of a and b= False
implication of a and b= True
Bidirectional operation of a and b= False
> |
```