21AIE112 Elements of computing systems - II
(INCLASS ASSIGNMENT)

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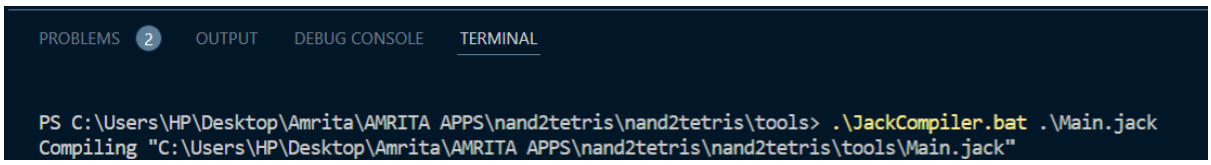
Q1. Write a jack code for division of two numbers using division sign and inbuilt class.

CODE: Using Inbuilt Class

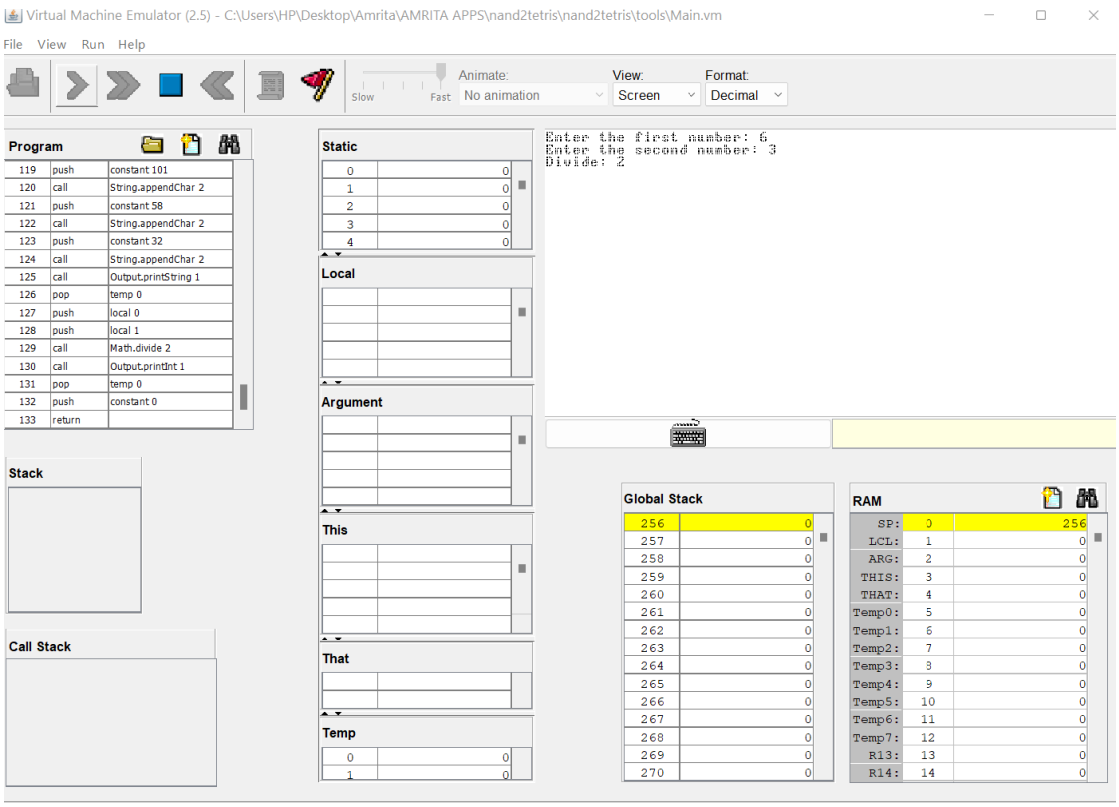
```
class Main {
   function void main() {
      var int a;
      var int b;
      let a = Keyboard.readInt("Enter the first number:
");
      let b = Keyboard.readInt("Enter the second number:
");
      do Output.printString("Divide: ");
      do Output.printInt(Math.divide(a, b));
      return;
}
}
```

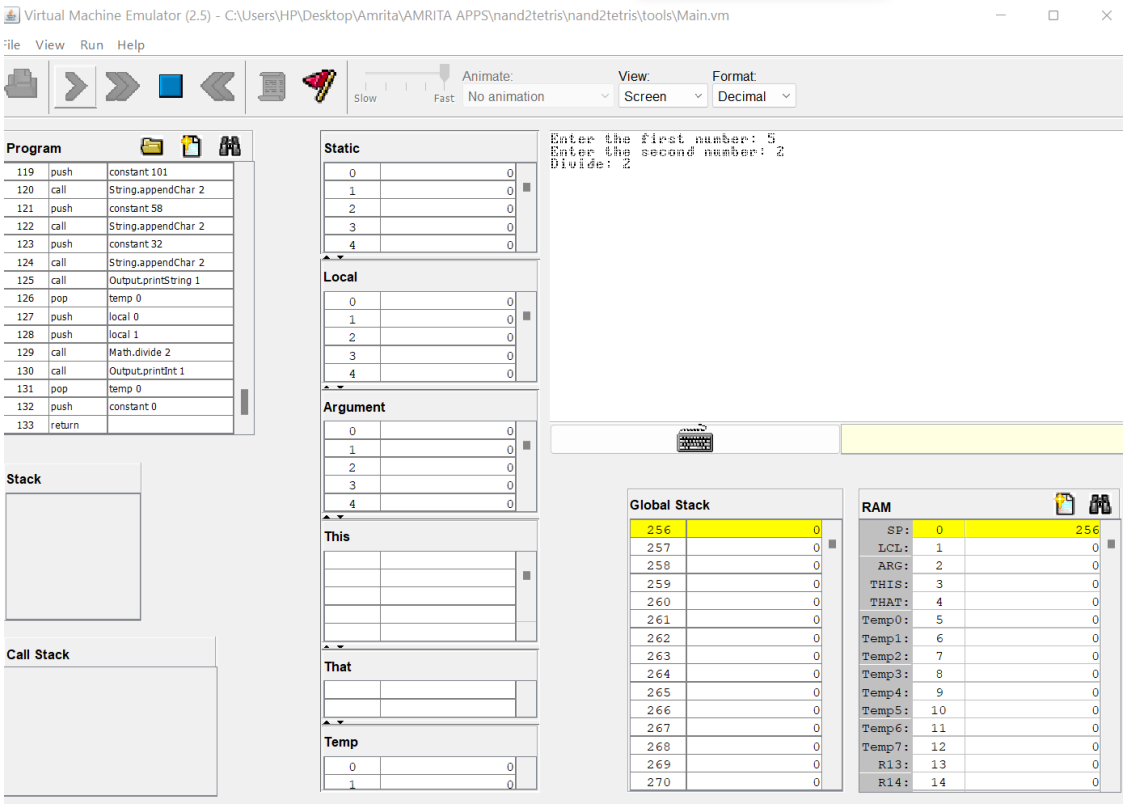
Compiler Code:



OUTPUT:

With completely divisible number

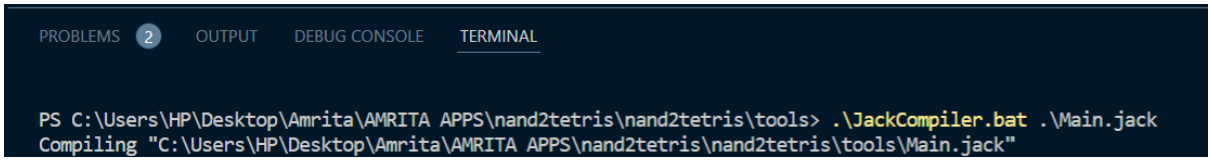




CODE: Using Divide Sign

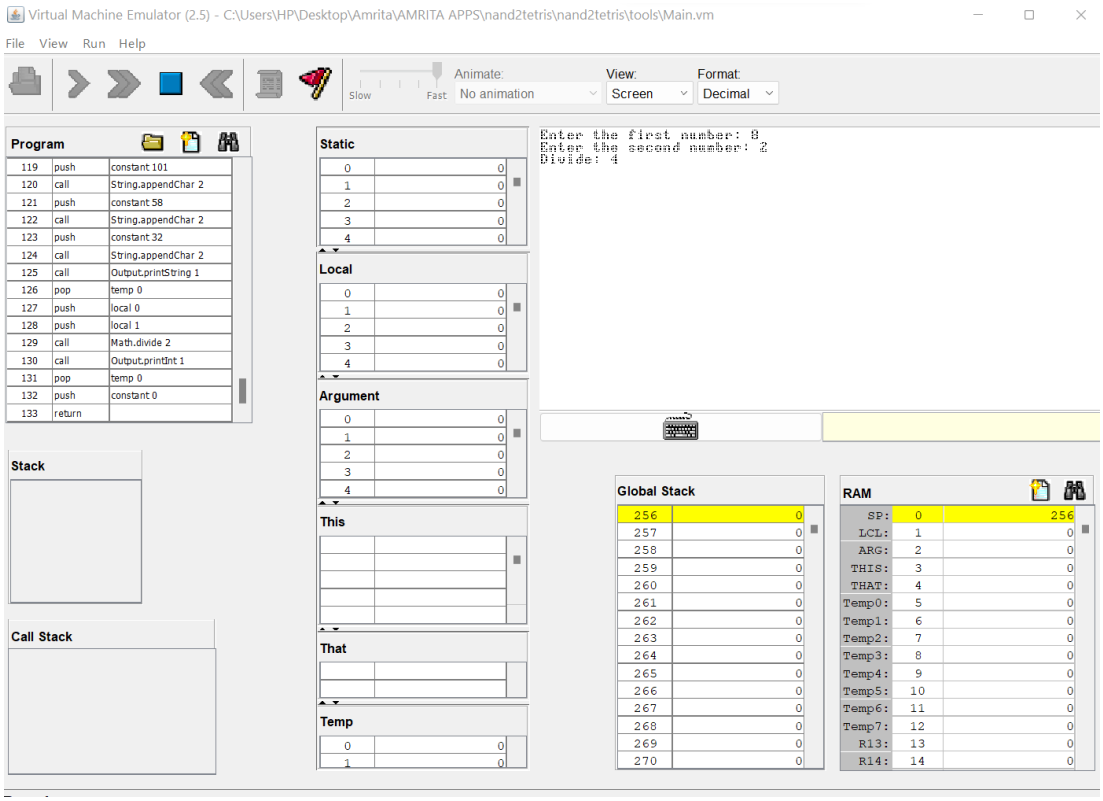
```
class Main {
   function void main() {
      var int a;
      var int b;
      let a = Keyboard.readInt("Enter the first number: ");
      let b = Keyboard.readInt("Enter the second number: ");
      do Output.printString("Divide: ");
      do Output.printInt(a/b);
      return;
}
}
```

Compiler Code:

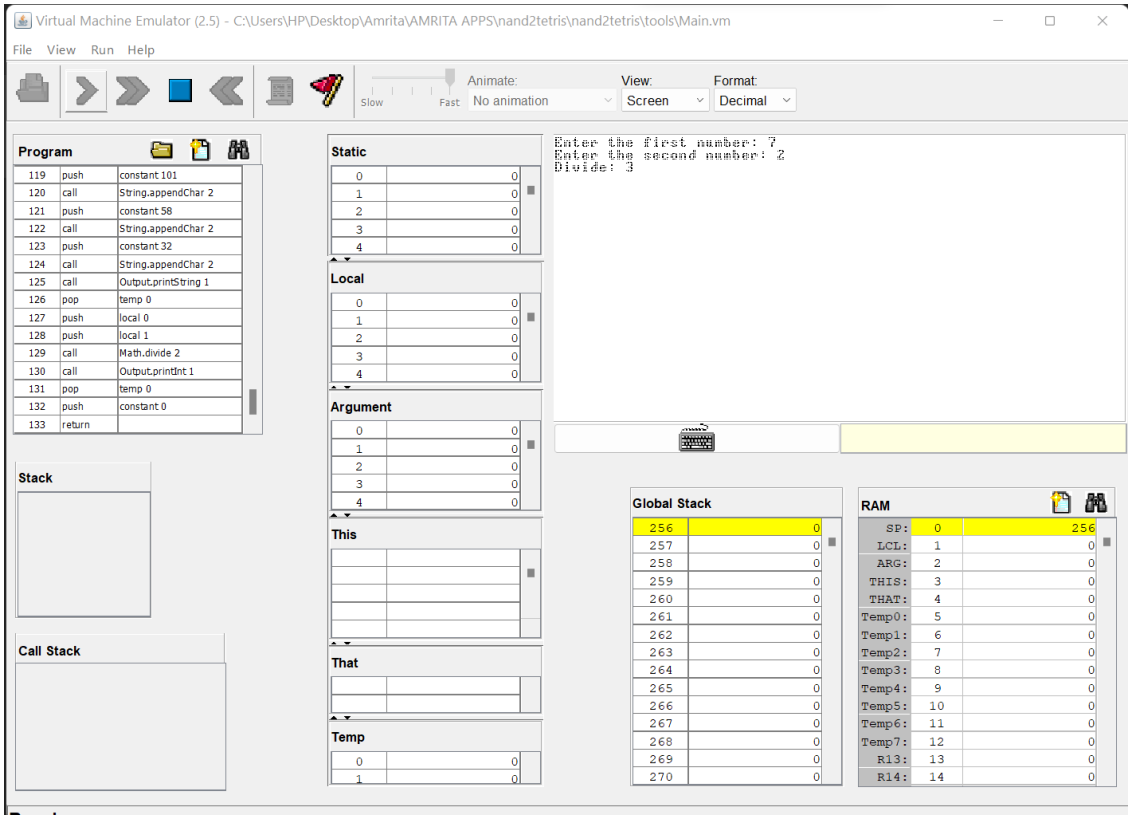


OUTPUT:

With completely divisible number



Without completely divisible number



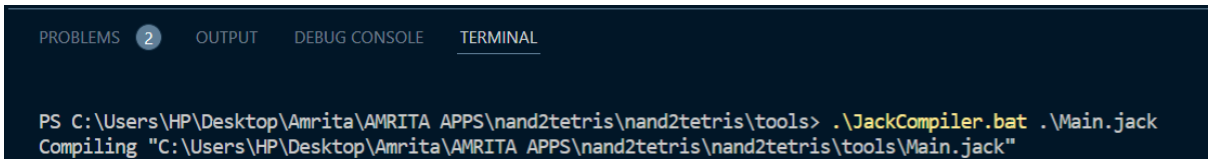
Q2. Write a jack code for division on your own without using division sign and inbuilt function.

CODE:

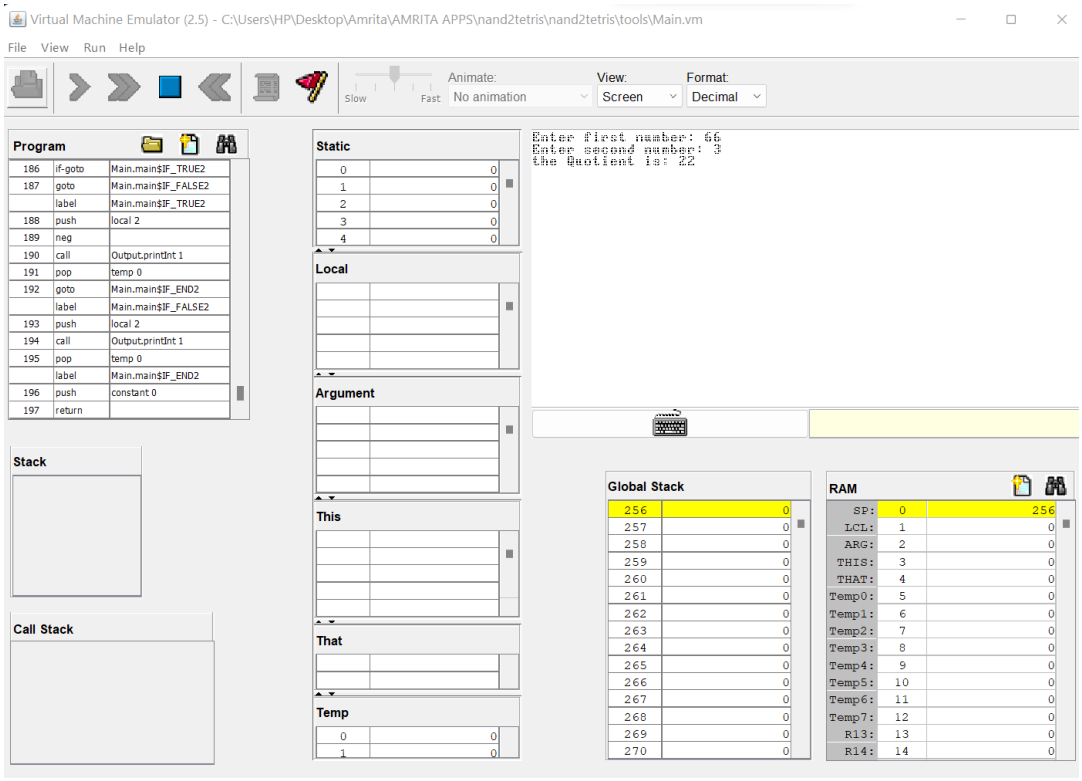
```
class Main {
  function void main() {
    var int a;  //we created 4 integer variables namely a,b,c,neg
    var int b;
    var int c;
    var int neg;

    let a = Keyboard.readInt("Enter first number: "); //we read the
first number

    let b = Keyboard.readInt("Enter second number: "); //we read the
second number

    if (b = 0) {
      do Output.printString("Cannot divide by zero. Please enter a
non-zero number. ");
      //if the second number is 0, we print this message
       while(b=0) {
      let b = Keyboard.readInt("Enter second number: "); //we read
the second number again
    }
    }

    let neg = 0; //we created a variable named neg
    if (a < 0) {
      let neg = neg + 1; //if the first number is negative, we add 1
to the variable neg
      let a = -a; //we make the first number positive
    }

    if (b < 0) {
      let neg = neg + 1; //if the second number is negative, we add
1 to the variable neg
      let b = -b; //we make the second number positive
    }
```

```
    let c = 0; //we created a variable named c
    while ((a > b) | (a = b)) {
      let a = a - b; //we subtract the first number from the second
number
      let c = c + 1; //we add 1 to the variable c
    }

    do Output.printString("the Quotient is: ");

    if (neg = 1) {
      do Output.printInt(-c); //if neg variable is 1 then only we
print Quotient as negative
    } else {
      do Output.printInt(c);  //if neg variable is 0 then only we
print Quotient as positive
    }
    return;
  }
}
```

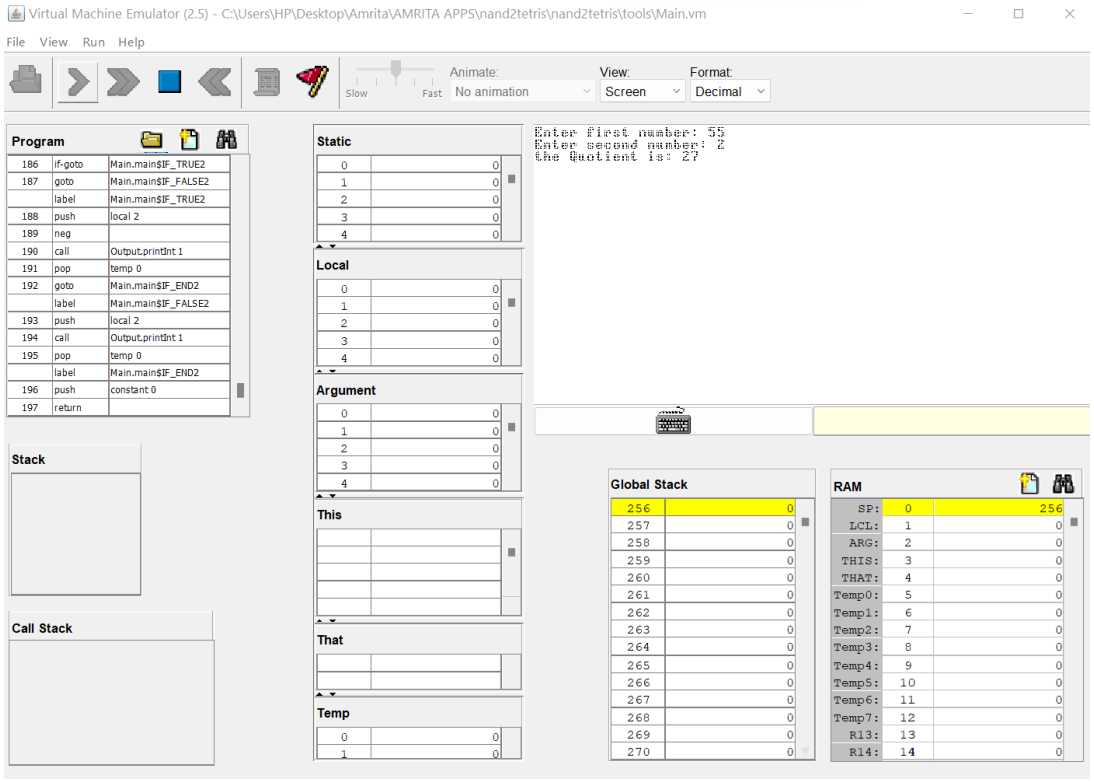
Compiler Code:



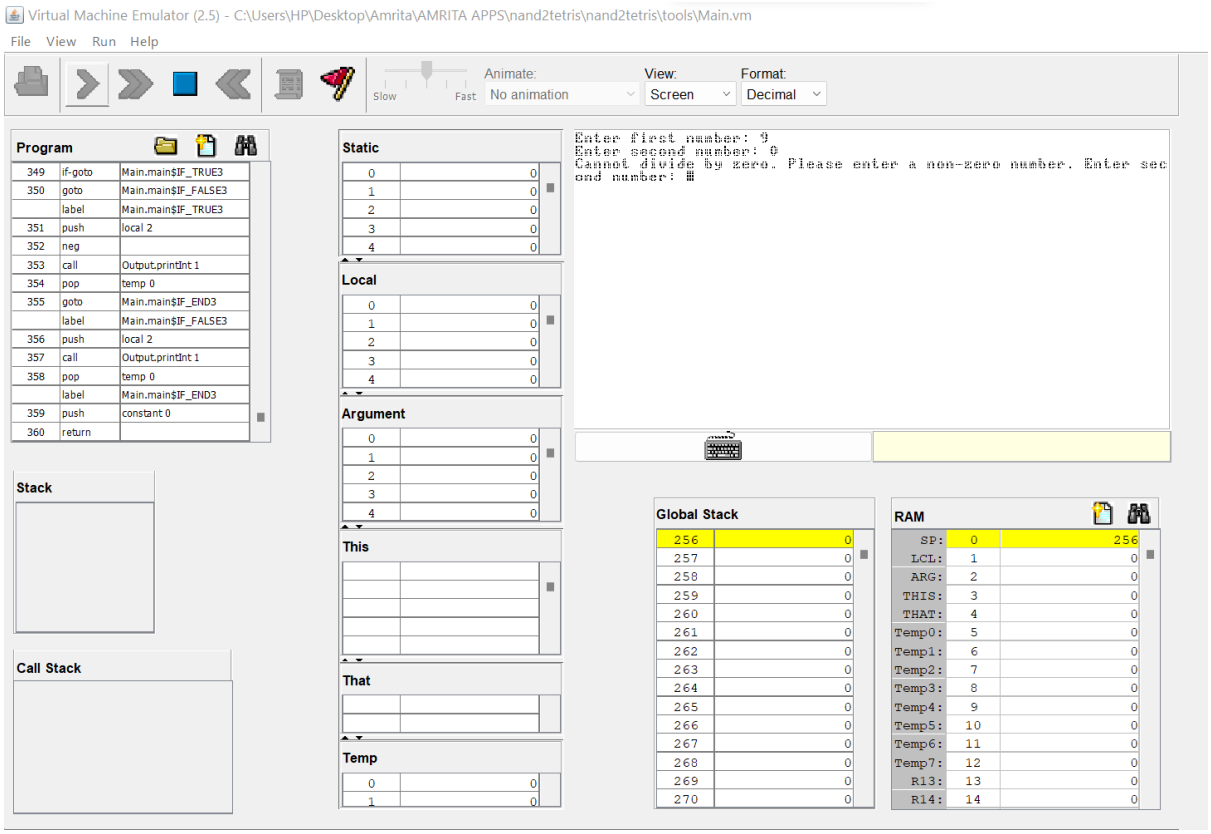
OUTPUT: With completely divisible dividend



OUTPUT: Without completely divisible dividend



OUTPUT: With second number as ZERO



THANK YOU