1 Given these assignments: \(a = 5\), \(b = 2\), and \(s = 1.5\) write the result type and value of the following expressions. Circle ERROR if the expression will result in a run time error.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Type:</th>
<th>Value:</th>
<th>ERROR:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a / b)</td>
<td></td>
<td></td>
<td>ERROR</td>
</tr>
<tr>
<td>(b ** a)</td>
<td></td>
<td></td>
<td>ERROR</td>
</tr>
<tr>
<td>(\text{float}(a) / b)</td>
<td></td>
<td></td>
<td>ERROR</td>
</tr>
<tr>
<td>(a % b)</td>
<td></td>
<td></td>
<td>ERROR</td>
</tr>
<tr>
<td>(s // a)</td>
<td></td>
<td></td>
<td>ERROR</td>
</tr>
<tr>
<td>(a &gt; b)</td>
<td></td>
<td></td>
<td>ERROR</td>
</tr>
<tr>
<td>(a == b)</td>
<td></td>
<td></td>
<td>ERROR</td>
</tr>
<tr>
<td>(a // b)</td>
<td></td>
<td></td>
<td>ERROR</td>
</tr>
<tr>
<td>(a + b * a)</td>
<td></td>
<td></td>
<td>ERROR</td>
</tr>
</tbody>
</table>

2 Conversion between binary, decimal and hexadecimal numbers:

a. Convert the binary number 11101011 to decimal: ____________

b. Convert the decimal number 151 to binary: ____________

c. Convert the binary number 10011100 to hexadecimal: ____________

d. Convert the hexadecimal number 5F to binary: ____________ (please show all 8 binary digits)

e. Convert the decimal number 90 to hexadecimal: ____________
3. What is the output from the following code if the user enters 75?
```python
c=int(input('Enter a value: '))
if c > 100:
    print("A")
elif c > 50:
    if c % 5 == 0 and not(c % 10 == 0):
        print("B")
    if c % 5 == 0:
        print("C")
    else:
        print("D")
if c > 20:
    print("E")
else:
    print("F")
```

Your answer:

4. What is the value of acc at the end of the following code?
```python
acc = 0
if 3*acc:
    acc += 1
else:
    if acc:
        acc += 5
    elif acc + 2:
        acc += 10
    else:
        acc += 20
acc += 10
```

Your answer:
Write a program that calculates the area and perimeter of a rectangle when given the length and width of the rectangle as input. You should check to make sure that the length and width you are given is strictly positive.

**Sample Outputs 1:**
Enter a length: 3
Enter a width: 4.5
Area: 13.5
Perimeter: 15

**Sample Outputs 2:**
Enter a length: 7
Enter a width: -8
ERROR: Width must be positive

**Code:**
Write a program that will calculate the number of days the user has been alive given the user’s birthday. The user will input the day and month he was born along with the year as prompted by the program. Assume the user does in fact input a number. Also, note that we do care about leap years and exactly how many days are in a month, so here are a couple rules just in case you’re like me and forgot how many days are in the month of September:

1. Know that 2020 and any other year that is divisible by 4 is a leap year.
2. There are 31 days in January, 28 days in February (29 if it is a leap year), 31 in March, 30 in April, 31 in May, 30 in June, 31 in July, 31 in August, 30 in September, 31 in October, 30 in November and 31 in December.

Have fun 😊

Code: