

```
1  '''
2  The purpose of this program is to convert an integer to a binary list with a specified
3  number of values. The inputs will be determined by the user. If the user-selected
4  number of values is less than the number of values required to give the binary
5  representation, the program will output an array of values with the minimal length
6  required instead of the user-selected length.
7
8  The bin function performs the binary conversion operation by evenly dividing the input
9  number repeatedly until it is equal to zero. The ones and zeroes are appended to the
10 output array. The array is then reversed, so that it is right justified. The final
11 display is the right justified array.
12
13 '''
14 class intToBinary:
15
16     def __init__(self):
17
18         #Global variables
19         self.n = 0
20         self.a = []
21
22         #Prompt the user for inputs
23         self.n = int(input("\nEnter an integer to be converted: "))
24         self.aLength = input("\nEnter the number of places to be converted: ")
25
26         #Convert to binary
27         self.bin(self.n)
28
29         #Check current length against specified length and add zeroes
30         while len(self.a) < int(self.aLength):
31             self.a.append(0)
32
33         #Reverse the order and display
34         print ("\n" + str(list(reversed(self.a))))
35
36     def bin(self, n):
37         while self.n > 0:
38
39             #Check for even numbers
40             if self.n % 2 == 0:
41                 self.n = int(self.n/2)
42                 self.a.append(0)
43
44             #Check for odds
45             elif self.n % 2 == 1:
46                 self.n = int(self.n/2)
47                 self.a.append(1)
48
49 i = intToBinary()
```