PYTHON PROGRAM

```
#Program to implement recursive binary_search
import random
def binary_search(p, q, m):
    if (p >= 0 and q < len(a) and p <= q):

        mid = int((p + q) / 2)

        if (a[mid] == m):
            return mid
        if (mid + 1 >= len(a) or mid - 1 < 0):
            return -1

        elif (a[mid] < m):
            return binary_search(mid + 1, q, m)
        elif (a[mid] > m):
            return binary_search(p, mid - 1, m)
    else:
        return -1


a = []
n = 5
for i in range(0, n):
    newrandomint = random.randint(1, 15)
    a.append(newrandomint)
m = random.randint(1, 10)
print("The array is :", end=" ")
for i in a:
    print(i, end=" ")
print("\nSearch :" + str(m))
pp = None
length = len(a)
pp = binary_search(0, length - 1, m)
if (pp != -1):
    print("Number found at index:" + str(pp))
else:
    print("{} is not found in array".format(m))

```