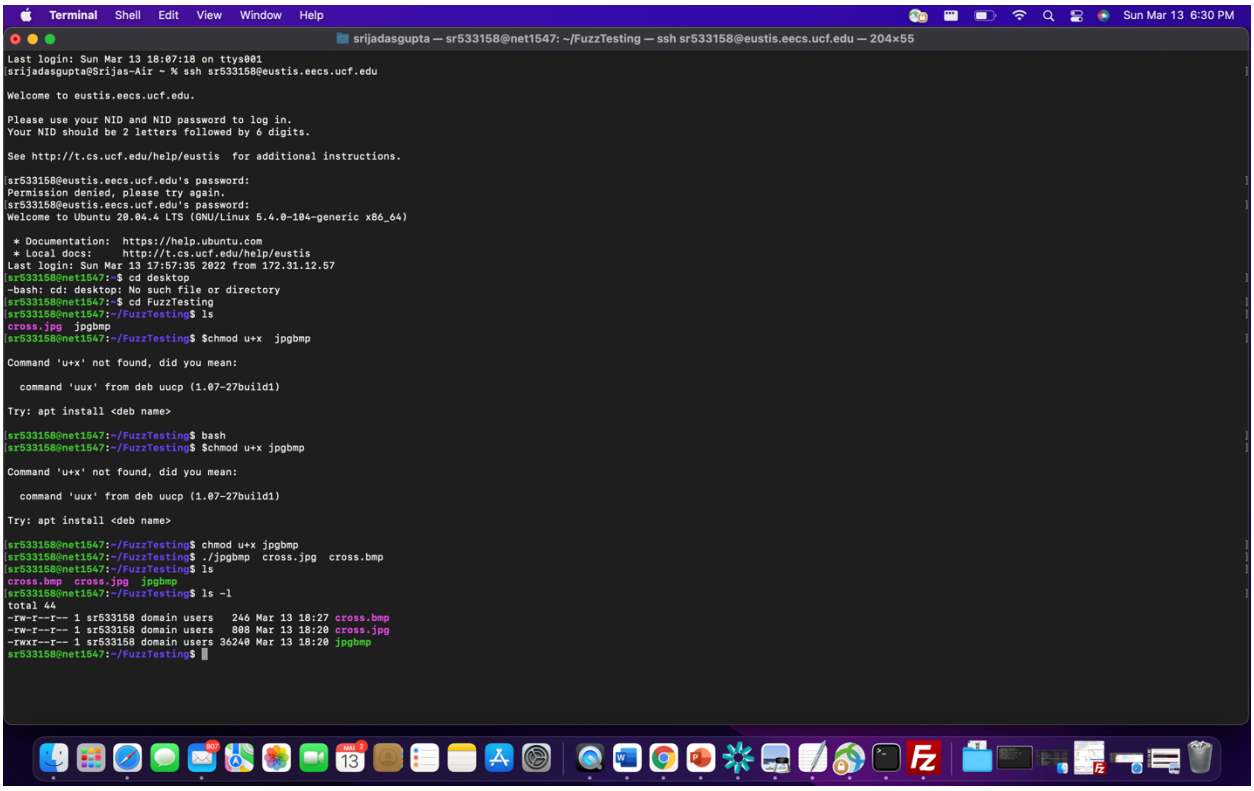
I completed this assignment as described in the following steps, with attached screenshots to show the steps. The **jpgbmp** executable and the **cross.jpg** were copied into the subject folder as shown below. I checked that the jpgbmp was executable with the **ls-l** command. To make it executable I have used the commands such as:

$chmod u+x jpgbmp
 $./jpgbmp cross.jpg cross.bmp
It will convert the 'cross.jpg' image file to the 'cross.bmp' image file.



Then I have uploaded Fuzzer.c file where I have written my C program for Fuzz Testing. And used the command : gcc Fuzzer.c -o Fuzzer.

```
Last login: Sun Mar 13 18:09:44 on ttys000
srijadasgupta@Srijas-Air ~ % ssh sr533158@eustis.eecs.ucf.edu

Welcome to eustis.eecs.ucf.edu.

Please use your NID and NID password to log in.
Your NID should be 2 letters followed by 6 digits.

See http://t.cs.ucf.edu/help/eustis  for additional instructions.

sr533158@eustis.eecs.ucf.edu's password:
Welcome to Ubuntu 20.04.4 LTS (GNU/Linux 5.4.0-104-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Local docs:     http://t.cs.ucf.edu/help/eustis
Last login: Sun Mar 13 18:11:30 2022 from 172.31.12.57
sr533158@net1547:~$ cd FuzzTesting
sr533158@net1547:~/FuzzTesting$ ls
cross.bmp  cross.jpg  jpgbmp
sr533158@net1547:~/FuzzTesting$ ls
cross.bmp  cross.jpg  Fuzzer.c  jpgbmp
sr533158@net1547:~/FuzzTesting$ ls -l
total 48
-rw-r--r-- 1 sr533158 domain users   246 Mar 13 18:27 cross.bmp
-rw-r--r-- 1 sr533158 domain users   808 Mar 13 18:20 cross.jpg
-rw-r--r-- 1 sr533158 domain users  2191 Mar 13 18:51 Fuzzer.c
-rwxr--r-- 1 sr533158 domain users 36240 Mar 13 18:20 jpgbmp
sr533158@net1547:~/FuzzTesting$ ls
cross.bmp  cross.jpg  Fuzzer.c  jpgbmp
sr533158@net1547:~/FuzzTesting$ gcc Fuzzer.c -o Fuzzer
sr533158@net1547:~/FuzzTesting$ ls
cross.bmp  cross.jpg  Fuzzer  Fuzzer.c  jpgbmp
sr533158@net1547:~/FuzzTesting$
```

Program Design:

I designed the program to mutate the image file at random values. I created a loop to further increase the reach of the randomization. I filled four consecutive bytes with random values. Within the loop, I also generated another new random value, filled four consecutive bytes with 0 and the fifth byte with the random value. This increased the range of bugs detected by my Fuzzer program.

I ran the Fuzzer program with **./Fuzzer &> output.txt**; this saves the output, with the names of the images that caused crashes, to a single txt file.

I allowed the **Fuzzer** to cause more than 16,000 crashes before terminating the program, as shown in the image below.

Agter that I have compiled Fuzzer.c with the commands: gcc Fuzzer.c

./a.out

The directory is populated with the images that caused the executable jpg2bmp program to crash, with the corresponding number of crashes. Then after using ls I got the images created during the testing. I have uploaded only one part of the whole result.

```
crashed-1103.jpg  crashed-1263.jpg  crashed-1422.jpg  crashed-1582.jpg  crashed-1741.jpg  crashed-1900.jpg  crashed-319.jpg  crashed-479.jpg  crashed-638.jpg  crashed-798.jpg  crashed-957.jpg
crashed-1104.jpg  crashed-1264.jpg  crashed-1423.jpg  crashed-1583.jpg  crashed-1742.jpg  crashed-1901.jpg  crashed-31.jpg   crashed-47.jpg   crashed-639.jpg  crashed-799.jpg  crashed-958.jpg
crashed-1105.jpg  crashed-1265.jpg  crashed-1424.jpg  crashed-1584.jpg  crashed-1743.jpg  crashed-1902.jpg  crashed-320.jpg  crashed-480.jpg  crashed-63.jpg   crashed-79.jpg   crashed-959.jpg
crashed-1106.jpg  crashed-1266.jpg  crashed-1425.jpg  crashed-1585.jpg  crashed-1744.jpg  crashed-1903.jpg  crashed-321.jpg  crashed-481.jpg  crashed-640.jpg  crashed-7.jpg    crashed-95.jpg
crashed-1107.jpg  crashed-1267.jpg  crashed-1426.jpg  crashed-1586.jpg  crashed-1745.jpg  crashed-1904.jpg  crashed-322.jpg  crashed-482.jpg  crashed-641.jpg  crashed-800.jpg  crashed-960.jpg
crashed-1108.jpg  crashed-1268.jpg  crashed-1427.jpg  crashed-1587.jpg  crashed-1746.jpg  crashed-1905.jpg  crashed-323.jpg  crashed-483.jpg  crashed-642.jpg  crashed-801.jpg  crashed-961.jpg
crashed-1109.jpg  crashed-1269.jpg  crashed-1428.jpg  crashed-1588.jpg  crashed-1747.jpg  crashed-1906.jpg  crashed-324.jpg  crashed-484.jpg  crashed-643.jpg  crashed-802.jpg  crashed-962.jpg
crashed-110.jpg   crashed-126.jpg   crashed-1429.jpg  crashed-1589.jpg  crashed-1748.jpg  crashed-1907.jpg  crashed-325.jpg  crashed-485.jpg  crashed-644.jpg  crashed-803.jpg  crashed-963.jpg
crashed-1110.jpg  crashed-1270.jpg  crashed-142.jpg   crashed-158.jpg   crashed-1749.jpg  crashed-1908.jpg  crashed-326.jpg  crashed-486.jpg  crashed-645.jpg  crashed-804.jpg  crashed-964.jpg
crashed-1111.jpg  crashed-1271.jpg  crashed-1430.jpg  crashed-1590.jpg  crashed-174.jpg   crashed-1909.jpg  crashed-327.jpg  crashed-487.jpg  crashed-646.jpg  crashed-805.jpg  crashed-965.jpg
crashed-1112.jpg  crashed-1272.jpg  crashed-1431.jpg  crashed-1591.jpg  crashed-1750.jpg  crashed-190.jpg   crashed-328.jpg  crashed-488.jpg  crashed-647.jpg  crashed-806.jpg  crashed-966.jpg
crashed-1113.jpg  crashed-1273.jpg  crashed-1432.jpg  crashed-1592.jpg  crashed-1751.jpg  crashed-1910.jpg  crashed-329.jpg  crashed-489.jpg  crashed-648.jpg  crashed-807.jpg  crashed-967.jpg
crashed-1114.jpg  crashed-1274.jpg  crashed-1433.jpg  crashed-1593.jpg  crashed-1752.jpg  crashed-1911.jpg  crashed-32.jpg   crashed-48.jpg   crashed-649.jpg  crashed-808.jpg  crashed-968.jpg
crashed-1115.jpg  crashed-1275.jpg  crashed-1434.jpg  crashed-1594.jpg  crashed-1753.jpg  crashed-1912.jpg  crashed-330.jpg  crashed-490.jpg  crashed-64.jpg   crashed-809.jpg  crashed-969.jpg
crashed-1116.jpg  crashed-1276.jpg  crashed-1435.jpg  crashed-1595.jpg  crashed-1754.jpg  crashed-1913.jpg  crashed-331.jpg  crashed-491.jpg  crashed-650.jpg  crashed-80.jpg   crashed-96.jpg
crashed-1117.jpg  crashed-1277.jpg  crashed-1436.jpg  crashed-1596.jpg  crashed-1755.jpg  crashed-1914.jpg  crashed-332.jpg  crashed-492.jpg  crashed-651.jpg  crashed-810.jpg  crashed-970.jpg
crashed-1118.jpg  crashed-1278.jpg  crashed-1437.jpg  crashed-1597.jpg  crashed-1756.jpg  crashed-1915.jpg  crashed-333.jpg  crashed-493.jpg  crashed-652.jpg  crashed-811.jpg  crashed-971.jpg
crashed-1119.jpg  crashed-1279.jpg  crashed-1438.jpg  crashed-1598.jpg  crashed-1757.jpg  crashed-1916.jpg  crashed-334.jpg  crashed-494.jpg  crashed-653.jpg  crashed-812.jpg  crashed-972.jpg
crashed-111.jpg   crashed-127.jpg   crashed-1439.jpg  crashed-1599.jpg  crashed-1758.jpg  crashed-1917.jpg  crashed-335.jpg  crashed-495.jpg  crashed-654.jpg  crashed-813.jpg  crashed-973.jpg
crashed-1120.jpg  crashed-1280.jpg  crashed-143.jpg   crashed-159.jpg   crashed-1759.jpg  crashed-1918.jpg  crashed-336.jpg  crashed-496.jpg  crashed-655.jpg  crashed-814.jpg  crashed-974.jpg
crashed-1121.jpg  crashed-1281.jpg  crashed-1440.jpg  crashed-15.jpg    crashed-175.jpg   crashed-1919.jpg  crashed-337.jpg  crashed-497.jpg  crashed-656.jpg  crashed-815.jpg  crashed-975.jpg
crashed-1122.jpg  crashed-1282.jpg  crashed-1441.jpg  crashed-1600.jpg  crashed-1760.jpg  crashed-191.jpg   crashed-338.jpg  crashed-498.jpg  crashed-657.jpg  crashed-816.jpg  crashed-976.jpg
crashed-1123.jpg  crashed-1283.jpg  crashed-1442.jpg  crashed-1601.jpg  crashed-1761.jpg  crashed-1920.jpg  crashed-339.jpg  crashed-499.jpg  crashed-658.jpg  crashed-817.jpg  crashed-977.jpg
crashed-1124.jpg  crashed-1284.jpg  crashed-1443.jpg  crashed-1602.jpg  crashed-1762.jpg  crashed-1921.jpg  crashed-33.jpg   crashed-49.jpg   crashed-659.jpg  crashed-818.jpg  crashed-978.jpg
crashed-1125.jpg  crashed-1285.jpg  crashed-1444.jpg  crashed-1603.jpg  crashed-1763.jpg  crashed-1922.jpg  crashed-340.jpg  crashed-4.jpg    crashed-65.jpg   crashed-819.jpg  crashed-979.jpg
crashed-1126.jpg  crashed-1286.jpg  crashed-1445.jpg  crashed-1604.jpg  crashed-1764.jpg  crashed-1923.jpg  crashed-341.jpg  crashed-500.jpg  crashed-660.jpg  crashed-81.jpg   crashed-97.jpg
crashed-1127.jpg  crashed-1287.jpg  crashed-1446.jpg  crashed-1605.jpg  crashed-1765.jpg  crashed-1924.jpg  crashed-342.jpg  crashed-501.jpg  crashed-661.jpg  crashed-820.jpg  crashed-980.jpg
crashed-1128.jpg  crashed-1288.jpg  crashed-1447.jpg  crashed-1606.jpg  crashed-1766.jpg  crashed-1925.jpg  crashed-343.jpg  crashed-502.jpg  crashed-662.jpg  crashed-821.jpg  crashed-981.jpg
crashed-1129.jpg  crashed-1289.jpg  crashed-1448.jpg  crashed-1607.jpg  crashed-1767.jpg  crashed-1926.jpg  crashed-344.jpg  crashed-503.jpg  crashed-663.jpg  crashed-822.jpg  crashed-982.jpg
crashed-112.jpg   crashed-128.jpg   crashed-1449.jpg  crashed-1608.jpg  crashed-1768.jpg  crashed-1927.jpg  crashed-345.jpg  crashed-504.jpg  crashed-664.jpg  crashed-823.jpg  crashed-983.jpg
crashed-1130.jpg  crashed-1290.jpg  crashed-144.jpg   crashed-1609.jpg  crashed-1769.jpg  crashed-1928.jpg  crashed-346.jpg  crashed-505.jpg  crashed-665.jpg  crashed-824.jpg  crashed-984.jpg
crashed-1131.jpg  crashed-1291.jpg  crashed-1450.jpg  crashed-160.jpg   crashed-176.jpg   crashed-1929.jpg  crashed-347.jpg  crashed-506.jpg  crashed-666.jpg  crashed-825.jpg  crashed-985.jpg
crashed-1132.jpg  crashed-1292.jpg  crashed-1451.jpg  crashed-1610.jpg  crashed-1770.jpg  crashed-192.jpg   crashed-348.jpg  crashed-507.jpg  crashed-667.jpg  crashed-826.jpg  crashed-986.jpg
crashed-1133.jpg  crashed-1293.jpg  crashed-1452.jpg  crashed-1611.jpg  crashed-1771.jpg  crashed-1930.jpg  crashed-349.jpg  crashed-508.jpg  crashed-668.jpg  crashed-827.jpg  crashed-987.jpg
crashed-1134.jpg  crashed-1294.jpg  crashed-1453.jpg  crashed-1612.jpg  crashed-1772.jpg  crashed-1931.jpg  crashed-34.jpg   crashed-509.jpg  crashed-669.jpg  crashed-828.jpg  crashed-988.jpg
crashed-1135.jpg  crashed-1295.jpg  crashed-1454.jpg  crashed-1613.jpg  crashed-1773.jpg  crashed-1932.jpg  crashed-350.jpg  crashed-50.jpg   crashed-66.jpg   crashed-829.jpg  crashed-989.jpg
crashed-1136.jpg  crashed-1296.jpg  crashed-1455.jpg  crashed-1614.jpg  crashed-1774.jpg  crashed-1933.jpg  crashed-351.jpg  crashed-510.jpg  crashed-670.jpg  crashed-82.jpg   crashed-98.jpg
crashed-1137.jpg  crashed-1297.jpg  crashed-1456.jpg  crashed-1615.jpg  crashed-1775.jpg  crashed-193.jpg   crashed-352.jpg  crashed-511.jpg  crashed-671.jpg  crashed-830.jpg  crashed-990.jpg
crashed-1138.jpg  crashed-1298.jpg  crashed-1457.jpg  crashed-1616.jpg  crashed-1776.jpg  crashed-194.jpg   crashed-353.jpg  crashed-512.jpg  crashed-672.jpg  crashed-831.jpg  crashed-991.jpg
crashed-1139.jpg  crashed-1299.jpg  crashed-1458.jpg  crashed-1617.jpg  crashed-1777.jpg  crashed-195.jpg   crashed-354.jpg  crashed-513.jpg  crashed-673.jpg  crashed-832.jpg  crashed-992.jpg
crashed-113.jpg   crashed-129.jpg   crashed-1459.jpg  crashed-1618.jpg  crashed-1778.jpg  crashed-196.jpg   crashed-355.jpg  crashed-514.jpg  crashed-674.jpg  crashed-833.jpg  crashed-993.jpg
crashed-1140.jpg  crashed-12.jpg    crashed-145.jpg   crashed-1619.jpg  crashed-1779.jpg  crashed-197.jpg   crashed-356.jpg  crashed-515.jpg  crashed-675.jpg  crashed-834.jpg  crashed-994.jpg
crashed-1141.jpg  crashed-1300.jpg  crashed-1460.jpg  crashed-161.jpg   crashed-177.jpg   crashed-198.jpg   crashed-357.jpg  crashed-516.jpg  crashed-676.jpg  crashed-835.jpg  crashed-995.jpg
crashed-1142.jpg  crashed-1301.jpg  crashed-1461.jpg  crashed-1620.jpg  crashed-1780.jpg  crashed-199.jpg   crashed-358.jpg  crashed-517.jpg  crashed-677.jpg  crashed-836.jpg  crashed-996.jpg
crashed-1143.jpg  crashed-1302.jpg  crashed-1462.jpg  crashed-1621.jpg  crashed-1781.jpg  crashed-19.jpg    crashed-359.jpg  crashed-518.jpg  crashed-678.jpg  crashed-837.jpg  crashed-997.jpg
crashed-1144.jpg  crashed-1303.jpg  crashed-1463.jpg  crashed-1622.jpg  crashed-1782.jpg  crashed-1.jpg     crashed-35.jpg   crashed-519.jpg  crashed-679.jpg  crashed-838.jpg  crashed-998.jpg
crashed-1145.jpg  crashed-1304.jpg  crashed-1464.jpg  crashed-1623.jpg  crashed-1783.jpg  crashed-200.jpg   crashed-360.jpg  crashed-51.jpg   crashed-67.jpg   crashed-839.jpg  crashed-999.jpg
crashed-1146.jpg  crashed-1305.jpg  crashed-1465.jpg  crashed-1624.jpg  crashed-1784.jpg  crashed-201.jpg   crashed-361.jpg  crashed-520.jpg  crashed-680.jpg  crashed-83.jpg   crashed-99.jpg
crashed-1147.jpg  crashed-1306.jpg  crashed-1466.jpg  crashed-1625.jpg  crashed-1785.jpg  crashed-202.jpg   crashed-362.jpg  crashed-521.jpg  crashed-681.jpg  crashed-840.jpg  crashed-9.jpg
crashed-1148.jpg  crashed-1307.jpg  crashed-1467.jpg  crashed-1626.jpg  crashed-1786.jpg  crashed-203.jpg   crashed-363.jpg  crashed-522.jpg  crashed-682.jpg  crashed-841.jpg  cross.bmp
crashed-1149.jpg  crashed-1308.jpg  crashed-1468.jpg  crashed-1627.jpg  crashed-1787.jpg  crashed-204.jpg   crashed-364.jpg  crashed-523.jpg  crashed-683.jpg  crashed-842.jpg  cross.jpg
crashed-114.jpg   crashed-1309.jpg  crashed-1469.jpg  crashed-1628.jpg  crashed-1788.jpg  crashed-205.jpg   crashed-365.jpg  crashed-524.jpg  crashed-684.jpg  crashed-843.jpg  Fuzzer
crashed-1150.jpg  crashed-130.jpg   crashed-146.jpg   crashed-1629.jpg  crashed-1789.jpg  crashed-206.jpg   crashed-366.jpg  crashed-525.jpg  crashed-685.jpg  crashed-844.jpg  Fuzzer.c
crashed-1151.jpg  crashed-1310.jpg  crashed-1470.jpg  crashed-162.jpg   crashed-178.jpg   crashed-207.jpg   crashed-367.jpg  crashed-526.jpg  crashed-686.jpg  crashed-845.jpg  jpgbmp
crashed-1152.jpg  crashed-1311.jpg  crashed-1471.jpg  crashed-1630.jpg  crashed-1790.jpg  crashed-208.jpg   crashed-368.jpg  crashed-527.jpg  crashed-687.jpg  crashed-846.jpg  output.txt
crashed-1153.jpg  crashed-1312.jpg  crashed-1472.jpg  crashed-1631.jpg  crashed-1791.jpg  crashed-209.jpg   crashed-369.jpg  crashed-528.jpg  crashed-688.jpg  crashed-847.jpg  temp.bmp
crashed-1154.jpg  crashed-1313.jpg  crashed-1473.jpg  crashed-1632.jpg  crashed-1792.jpg  crashed-20.jpg    crashed-36.jpg   crashed-529.jpg  crashed-689.jpg  crashed-848.jpg  test.jpg
crashed-1155.jpg  crashed-1314.jpg  crashed-1474.jpg  crashed-1633.jpg  crashed-1793.jpg  crashed-210.jpg   crashed-370.jpg  crashed-52.jpg   crashed-68.jpg   crashed-849.jpg
crashed-1156.jpg  crashed-1315.jpg  crashed-1475.jpg  crashed-1634.jpg  crashed-1794.jpg  crashed-211.jpg   crashed-371.jpg  crashed-530.jpg  crashed-690.jpg  crashed-84.jpg
crashed-1157.jpg  crashed-1316.jpg  crashed-1476.jpg  crashed-1635.jpg  crashed-1795.jpg  crashed-212.jpg   crashed-372.jpg  crashed-531.jpg  crashed-691.jpg  crashed-850.jpg
crashed-1158.jpg  crashed-1317.jpg  crashed-1477.jpg  crashed-1636.jpg  crashed-1796.jpg  crashed-213.jpg   crashed-373.jpg  crashed-532.jpg  crashed-692.jpg  crashed-851.jpg
crashed-1159.jpg  crashed-1318.jpg  crashed-1478.jpg  crashed-1637.jpg  crashed-1797.jpg  crashed-214.jpg   crashed-374.jpg  crashed-533.jpg  crashed-693.jpg  crashed-852.jpg
sr533158@net1547:~/FuzzTesting$
```

Empirical Results:

Then it has started showing the results for bugs.

```
File name is : crashed-334.jpg
You triggered Bug #8 !
Segmentation fault (core dumped)
File name is : crashed-335.jpg
You triggered Bug #8 !
Segmentation fault (core dumped)
File name is : crashed-336.jpg
You triggered Bug #4 !
Segmentation fault (core dumped)
File name is : crashed-337.jpg
You triggered Bug #8 !
Segmentation fault (core dumped)
File name is : crashed-338.jpg
You triggered Bug #8 !
Segmentation fault (core dumped)
File name is : crashed-339.jpg
You triggered Bug #4 !
Segmentation fault (core dumped)
File name is : crashed-340.jpg
You triggered Bug #8 !
Segmentation fault (core dumped)
File name is : crashed-341.jpg
You triggered Bug #4 !
Segmentation fault (core dumped)
File name is : crashed-342.jpg
You triggered Bug #4 !
Segmentation fault (core dumped)
File name is : crashed-343.jpg
You triggered Bug #8 !
Segmentation fault (core dumped)
File name is : crashed-344.jpg
You triggered Bug #4 !
Segmentation fault (core dumped)
File name is : crashed-345.jpg
Segmentation fault (core dumped)
File name is : crashed-346.jpg
You triggered Bug #4 !
Segmentation fault (core dumped)
File name is : crashed-347.jpg
You triggered Bug #4 !
Segmentation fault (core dumped)
File name is : crashed-348.jpg
You triggered Bug #4 !
Segmentation fault (core dumped)
File name is : crashed-349.jpg
You triggered Bug #2 !
Segmentation fault (core dumped)
File name is : crashed-350.jpg
You triggered Bug #4 !
Segmentation fault (core dumped)
File name is : crashed-351.jpg
You triggered Bug #4 !
Segmentation fault (core dumped)
File name is : crashed-352.jpg
You triggered Bug #3 !
Segmentation fault (core dumped)
File name is : crashed-353.jpg
You triggered Bug #4 !
Segmentation fault (core dumped)
File name is : crashed-354.jpg
You triggered Bug #4 !
Segmentation fault (core dumped)
File name is : crashed-355.jpg
```

I then picked seven(7) images randomly that caused the crash to know the bug# that was triggered. In total, 7 bugs were successfully detected as shown in the output image below. Then I have renamed one image for each bugs into “test-x.jpg” format where x is the number of bugs such as 1,2,3 etc.

```
sr533158@net1547:~/FuzzTesting$ mv crashed-417.jpg test-1.jpg
sr533158@net1547:~/FuzzTesting$ mv crashed-28.jpg test-2.jpg
sr533158@net1547:~/FuzzTesting$ mv crashed-160.jpg test-3.jpg
sr533158@net1547:~/FuzzTesting$ mv crashed-416.jpg test-4.jpg
sr533158@net1547:~/FuzzTesting$ mv crashed-103.jpg test-5.jpg
sr533158@net1547:~/FuzzTesting$ mv crashed-155.jpg test-7.jpg
sr533158@net1547:~/FuzzTesting$ mv crashed-154.jpg test-8.jpg
sr533158@net1547:~/FuzzTesting$
```

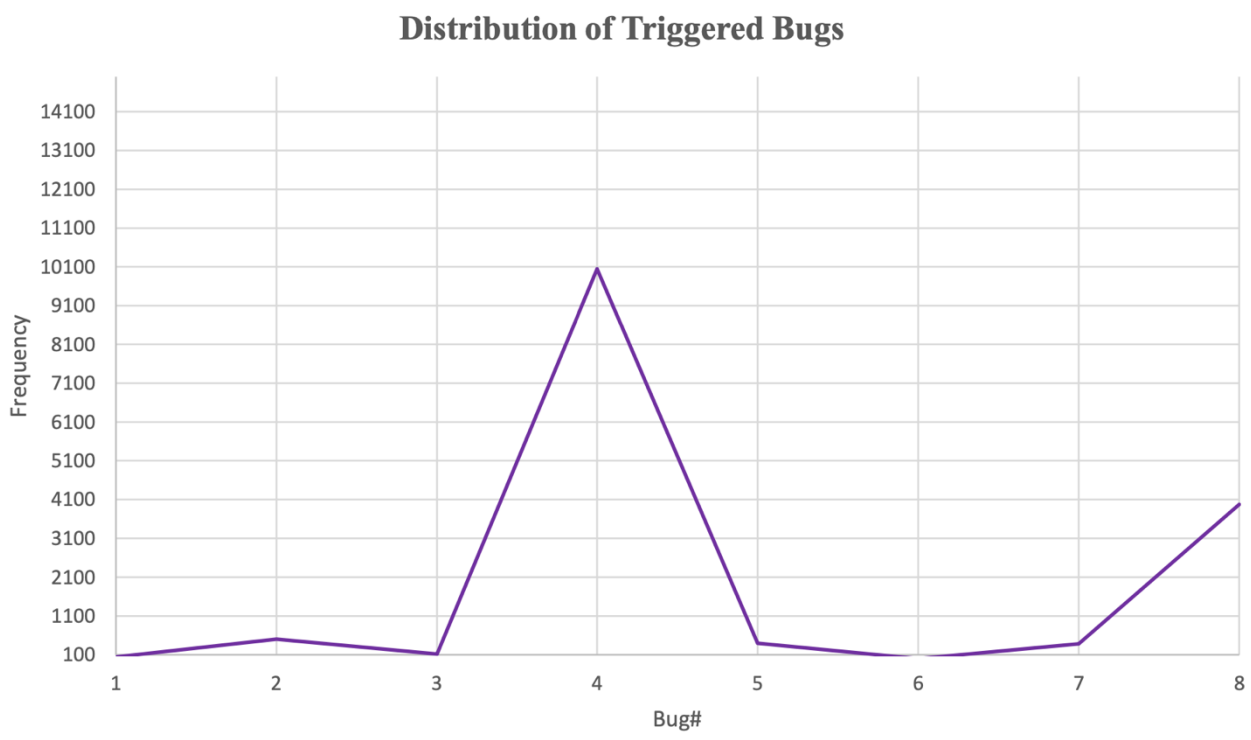
Finally, I used the **test-x.jpg** images to trigger bugs corresponding to the test image number, as shown below.

```
sr533158@net1547:~/FuzzTesting$ ./jpgbmp test-1.jpg temp.bmp
You triggered Bug #1 !.
Segmentation fault (core dumped)
sr533158@net1547:~/FuzzTesting$ ./jpgbmp test-2.jpg temp.bmp
You triggered Bug #2 !
Segmentation fault (core dumped)
sr533158@net1547:~/FuzzTesting$ ./jpgbmp test-3.jpg temp.bmp
You triggered Bug #3 !
Segmentation fault (core dumped)
sr533158@net1547:~/FuzzTesting$ ./jpgbmp test-4.jpg temp.bmp
You triggered Bug #4 !
Segmentation fault (core dumped)
sr533158@net1547:~/FuzzTesting$ ./jpgbmp test-5.jpg temp.bmp
You triggered Bug #5 !
Segmentation fault (core dumped)
sr533158@net1547:~/FuzzTesting$ ./jpgbmp test-7.jpg temp.bmp
You triggered Bug #7 !
Segmentation fault (core dumped)
sr533158@net1547:~/FuzzTesting$ ./jpgbmp test-8.jpg temp.bmp
You triggered Bug #8 !
Segmentation fault (core dumped)
sr533158@net1547:~/FuzzTesting$
```

Statistical Representation:

BUG#	FREQUENCY
1	44
2	505
3	121
4	10048
5	396
6	0
7	383
8	3973
TOTAL	15470

A total of 15,470 crashes were caused by the **Fuzzer** program. The graph below shows distribution of the rate of occurrence of each of the 8 bugs triggered, with bug#4 being the highest appearing and bug#6 with zero trigger.


Distribution of Triggered Bugs
Frequency
14100
13100
12100
11100
10100
9100
8100
7100
6100
5100
4100
3100
2100
1100
100
1
2
3
4
5
6
7
8
Bug#