

In [1]:

```
import math
math.sqrt(1500)
```

Out[1]:

38.72983346207417

2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37 are prime numbers you need.

$1000 < P^2 + \sum 2P < 1500$  ( $P=3$ )

In [2]:

```
def func(x):
    x = 3*3 + 2*x*3
    return x
func(166); func(167); func(168); func(169); func(170);
func(171); func(172); func(173); func(174); func(175); func(176); func(177); func(178); func(179);
func(180);
func(181); func(182); func(183); func(184); func(185); func(186); func(187); func(188); func(189);
func(190);
func(191); func(192); func(193); func(194); func(195); func(196); func(197); func(198); func(199);
func(200)
```

Out[2]:

1209

In [3]:

```
print [func(166), func(167), func(168), func(169), func(170),
func(171), func(172), func(173), func(174), func(175), func(176), func(177), func(178), func(179),
func(180),
func(181), func(182), func(183), func(184), func(185), func(186), func(187), func(188), func(189),
func(190),
func(191), func(192), func(193), func(194), func(195), func(196), func(197), func(198), func(199),
func(200)]
```

[1005, 1011, 1017, 1023, 1029, 1035, 1041, 1047, 1053, 1059, 1065, 1071, 1077, 1083, 1089, 1095, 1101, 1107, 1113, 1119, 1125, 1131, 1137, 1143, 1149, 1155, 1161, 1167, 1173, 1179, 1185, 1191, 1197, 1203, 1209]

In [14]:

```
func(201); func(202); func(203); func(204); func(205); func(206); func(207); func(208); func(209);
func(210);
func(211); func(212); func(213); func(214); func(215); func(216); func(217); func(218); func(219);
func(220);
func(221); func(222); func(223); func(224); func(225); func(226); func(227); func(228); func(229);
func(230);
func(231); func(232); func(233); func(234); func(235); func(236); func(237); func(238); func(239);
func(240);
func(241); func(242); func(243); func(244); func(245); func(246); func(247); func(248)
```

Out[14]:

1497

In [17]:

```
print [func(201), func(202), func(203), func(204), func(205), func(206), func(207), func(208),
func(209), func(210),
func(211), func(212), func(213), func(214), func(215), func(216), func(217), func(218), func(219),
func(220),
func(221), func(222), func(223), func(224), func(225), func(226), func(227), func(228), func(229),
func(230),
func(231), func(232), func(233), func(234), func(235), func(236), func(237), func(238), func(239),
func(240),
func(241), func(242), func(243), func(244), func(245), func(246), func(247), func(248)]
```

```
func(230),  
func(231), func(232), func(233), func(234), func(235), func(236), func(237), func(238), func(239),  
func(240),  
func(241), func(242), func(243), func(244), func(245), func(246), func(247), func(248)]
```

[1215, 1221, 1227, 1233, 1239, 1245, 1251, 1257, 1263, 1269, 1275, 1281, 1287, 1293, 1299, 1305, 1311, 1317, 1323, 1329, 1335, 1341, 1347, 1353, 1359, 1365, 1371, 1377, 1383, 1389, 1395, 1401, 1407, 1413, 1419, 1425, 1431, 1437, 1443, 1449, 1455, 1461, 1467, 1473, 1479, 1485, 1491, 1497]



1000<P^2+Σ2P<1500 (P=5)

In [21]:

```
def func(x):  
    x = 5*5 + 2*x*5  
    return x  
func(98); func(99); func(100);  
func(101); func(102); func(103); func(104); func(105); func(106); func(107); func(108); func(109);  
func(110);  
func(111); func(112); func(113); func(114); func(115); func(116); func(117); func(118); func(119);  
func(120);  
func(121); func(122); func(123); func(124); func(125); func(126); func(127); func(128); func(129);  
func(130);  
func(131); func(132); func(133); func(134); func(135); func(136); func(137); func(138); func(139);  
func(140);  
func(141); func(142); func(143); func(144); func(145); func(146); func(147)
```

Out[21]:

1495

In [22]:

```
print(func(98), func(99), func(100),  
func(101), func(102), func(103), func(104), func(105), func(106), func(107), func(108), func(109),  
func(110),  
func(111), func(112), func(113), func(114), func(115), func(116), func(117), func(118), func(119),  
func(120),  
func(121), func(122), func(123), func(124), func(125), func(126), func(127), func(128), func(129),  
func(130),  
func(131), func(132), func(133), func(134), func(135), func(136), func(137), func(138), func(139),  
func(140),  
func(141), func(142), func(143), func(144), func(145), func(146), func(147) )
```

[1005, 1015, 1025, 1035, 1045, 1055, 1065, 1075, 1085, 1095, 1105, 1115, 1125, 1135, 1145, 1155, 1165, 1175, 1185, 1195, 1205, 1215, 1225, 1235, 1245, 1255, 1265, 1275, 1285, 1295, 1305, 1315, 1325, 1335, 1345, 1355, 1365, 1375, 1385, 1395, 1405, 1415, 1425, 1435, 1445, 1455, 1465, 1475, 1485, 1495]



1000<P^2+Σ2P<1500 (P=7)

In [29]:

```
def func(x):  
    x = 7*7 + 2*x*7  
    return x  
func(68); func(69); func(70);  
func(71); func(72); func(73); func(74); func(75); func(76); func(77); func(78); func(79); func(80);  
;  
func(81); func(82); func(83); func(84); func(85); func(86); func(87); func(88); func(89); func(90);  
;  
func(91); func(92); func(93); func(94); func(95); func(96); func(97); func(98); func(99); func(100);  
);  
func(101); func(102); func(103)
```

Out[29]:

1491

In [30]:

```
print [func(68), func(69), func(70),
      func(71), func(72), func(73), func(74), func(75), func(76), func(77), func(78), func(79), f
unc(80),
      func(81), func(82), func(83), func(84), func(85), func(86), func(87), func(88), func(89), f
unc(90),
      func(91), func(92), func(93), func(94), func(95), func(96), func(97), func(98), func(99), f
unc(100),
      func(101), func(102), func(103)]
```

[1001, 1015, 1029, 1043, 1057, 1071, 1085, 1099, 1113, 1127, 1141, 1155, 1169, 1183, 1197, 1211, 1225, 1239, 1253, 1267, 1281, 1295, 1309, 1323, 1337, 1351, 1365, 1379, 1393, 1407, 1421, 1435, 1449, 1463, 1477, 1491]

1000<P^2+Σ2P<1500 (P=11)

In [35]:

```
def func(x):
    x = 11*11 + 2*x*11
    return x
func(40);
func(41); func(42); func(43); func(44); func(45); func(46); func(47); func(48); func(49); func(50);
func(51); func(52); func(53); func(54); func(55); func(56); func(57); func(58); func(59); func(60);
;
func(61); func(62)
```

Out[35]:

1485

In [36]:

```
print [func(40),
      func(41), func(42), func(43), func(44), func(45), func(46), func(47), func(48), func(49), f
unc(50),
      func(51), func(52), func(53), func(54), func(55), func(56), func(57), func(58), func(59), f
unc(60),
      func(61), func(62) ]
```

[1001, 1023, 1045, 1067, 1089, 1111, 1133, 1155, 1177, 1199, 1221, 1243, 1265, 1287, 1309, 1331, 1353, 1375, 1397, 1419, 1441, 1463, 1485]

1000<P^2+Σ2P<1500 (P=13)

In [41]:

```
def func(x):
    x = 13*13 + 2*x*13
    return x
func(32); func(33); func(34); func(35); func(36); func(37); func(38); func(39); func(40);
func(41); func(42); func(43); func(44); func(45); func(46); func(47); func(48); func(49); func(50);
func(51)
```

Out[41]:

1495

In [42]:

```
print[ func(32), func(33), func(34), func(35), func(36), func(37), func(38), func(39), func(40),
      func(41), func(42), func(43), func(44), func(45), func(46), func(47), func(48), func(49), f
unc(50),
      func(51) ]
```

[1001, 1027, 1053, 1079, 1105, 1131, 1157, 1183, 1209, 1235, 1261, 1287, 1313, 1339, 1365, 1391, 1417, 1443, 1469, 1495]

$1000 < P^2 + \sum P < 1500$  ( $P=17$ )

In [49]:

```
def func(x):  
    x = 17*17 + 2*x*17  
    return x  
func(21); func(22); func(23); func(24); func(25); func(26); func(27); func(28); func(29); func(30)  
;  
func(31); func(32); func(33); func(34); func(35)
```

Out[49]:

1479

In [50]:

```
print[ func(21), func(22), func(23), func(24), func(25), func(26), func(27), func(28), func(29), f  
unc(30),  
        func(31), func(32), func(33), func(34), func(35)]
```

[1003, 1037, 1071, 1105, 1139, 1173, 1207, 1241, 1275, 1309, 1343, 1377, 1411, 1445, 1479]

$1000 < P^2 + \sum P < 1500$  ( $P=19$ )

In [52]:

```
def func(x):  
    x = 19*19 + 2*x*19  
    return x  
func(17); func(18); func(19); func(20);  
func(21); func(22); func(23); func(24); func(25); func(26); func(27); func(28); func(29)
```

Out[52]:

1463

In [53]:

```
print[ func(17), func(18), func(19), func(20),  
        func(21), func(22), func(23), func(24), func(25), func(26), func(27), func(28), func(29)]
```

[1007, 1045, 1083, 1121, 1159, 1197, 1235, 1273, 1311, 1349, 1387, 1425, 1463]

$1000 < P^2 + \sum P < 1500$  ( $P=23$ )

In [57]:

```
def func(x):  
    x = 23*23 + 2*x*23  
    return x  
func(11); func(12); func(13); func(14); func(15); func(16); func(17); func(18); func(19); func(20)  
;  
func(21)
```

Out[57]:

1495

In [58]:

```
print[ func(11), func(12), func(13), func(14), func(15), func(16), func(17), func(18), func(19), f  
unc(20),  
        func(21)]
```

[1035, 1081, 1127, 1173, 1219, 1265, 1311, 1357, 1403, 1449, 1495]

$1000 < P^2 + \sum P < 1500$  ( $P=29$ )

In [64]:

```
def func(x):  
    x = 29*29 + 2*x*29  
    return x  
func(3); func(4); func(5); func(6); func(7); func(8); func(9); func(10);  
func(11)
```

Out[64]:

1479

In [65]:

```
print [func(3), func(4), func(5), func(6), func(7), func(8), func(9), func(10),  
       func(11)]
```

[1015, 1073, 1131, 1189, 1247, 1305, 1363, 1421, 1479]

$1000 < P^2 + \sum P < 1500$  ( $P=31$ )

In [69]:

```
def func(x):  
    x = 31*31 + 2*x*31  
    return x  
func(1); func(2); func(3); func(4); func(5); func(6); func(7); func(8)
```

Out[69]:

1457

In [70]:

```
print [func(1), func(2), func(3), func(4), func(5), func(6), func(7), func(8)]
```

[1023, 1085, 1147, 1209, 1271, 1333, 1395, 1457]

$P^2$  ( $P=37$ )

In [71]:

```
def func(x):  
    x = x**2  
    return x  
func(37)
```

Out[71]:

1369

$1000 < P^2 + \sum P < 1500$  ( $P=37$ )

In [74]:

```
def func(x):  
    x = 37*37 + 2*x*37  
    return x  
func(1)
```

Out[74]:

1443

In [75]:

```
lst = [i for i in range(1000, 1500)]
lst
print [lst]
```

```
[[1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1
016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032
, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1
049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065
, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1
082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098
, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1
115, 1116, 1117, 1118, 1119, 1120, 1121, 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1130, 1131
, 1132, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1
148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164
, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1180, 1
181, 1182, 1183, 1184, 1185, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1196, 1197
, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1
214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230
, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1246, 1
247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263
, 1264, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1
280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296
, 1297, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312, 1
313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329
, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1
346, 1347, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1357, 1358, 1359, 1360, 1361, 1362
, 1363, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1
379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394, 1395
, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1
412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428
, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1
445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461
, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1
478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494
, 1495, 1496, 1497, 1498, 1499]]
```

In [76]:

```
lst[1::2]
print [lst[1::2]]
```

```
[[1001, 1003, 1005, 1007, 1009, 1011, 1013, 1015, 1017, 1019, 1021, 1023, 1025, 1027, 1029, 1031, 1
033, 1035, 1037, 1039, 1041, 1043, 1045, 1047, 1049, 1051, 1053, 1055, 1057, 1059, 1061, 1063, 1065
, 1067, 1069, 1071, 1073, 1075, 1077, 1079, 1081, 1083, 1085, 1087, 1089, 1091, 1093, 1095, 1097, 1
099, 1101, 1103, 1105, 1107, 1109, 1111, 1113, 1115, 1117, 1119, 1121, 1123, 1125, 1127, 1129, 1131
, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1151, 1153, 1155, 1157, 1159, 1161, 1163, 1
165, 1167, 1169, 1171, 1173, 1175, 1177, 1179, 1181, 1183, 1185, 1187, 1189, 1191, 1193, 1195, 1197
, 1199, 1201, 1203, 1205, 1207, 1209, 1211, 1213, 1215, 1217, 1219, 1221, 1223, 1225, 1227, 1229, 1
231, 1233, 1235, 1237, 1239, 1241, 1243, 1245, 1247, 1249, 1251, 1253, 1255, 1257, 1259, 1261, 1263
, 1265, 1267, 1269, 1271, 1273, 1275, 1277, 1279, 1281, 1283, 1285, 1287, 1289, 1291, 1293, 1295, 1
297, 1299, 1301, 1303, 1305, 1307, 1309, 1311, 1313, 1315, 1317, 1319, 1321, 1323, 1325, 1327, 1329
, 1331, 1333, 1335, 1337, 1339, 1341, 1343, 1345, 1347, 1349, 1351, 1353, 1355, 1357, 1359, 1361, 1
363, 1365, 1367, 1369, 1371, 1373, 1375, 1377, 1379, 1381, 1383, 1385, 1387, 1389, 1391, 1393, 1395
, 1397, 1399, 1401, 1403, 1405, 1407, 1409, 1411, 1413, 1415, 1417, 1419, 1421, 1423, 1425, 1427, 1
429, 1431, 1433, 1435, 1437, 1439, 1441, 1443, 1445, 1447, 1449, 1451, 1453, 1455, 1457, 1459, 1461
, 1463, 1465, 1467, 1469, 1471, 1473, 1475, 1477, 1479, 1481, 1483, 1485, 1487, 1489, 1491, 1493, 1
495, 1497, 1499]]
```

1000<(Odd Numbers) - (P^2+Σ2P) = Prime Numbers <1500

In [77]:

```
l1 = [1001, 1003, 1005, 1007, 1009, 1011, 1013, 1015, 1017, 1019, 1021, 1023, 1025, 1027, 1029, 103
1, 1033, 1035,
      1037, 1039, 1041, 1043, 1045, 1047, 1049, 1051, 1053, 1055, 1057, 1059, 1061, 1063, 1065, 106
7, 1069, 1071,
      1073, 1075, 1077, 1079, 1081, 1083, 1085, 1087, 1089, 1091, 1093, 1095, 1097, 1099, 1101, 110
3, 1105, 1107,
      1109, 1111, 1113, 1115, 1117, 1119, 1121, 1123, 1125, 1127, 1129, 1131, 1133, 1135, 1137, 113
9, 1141, 1143,
```

```

1145, 1147, 1149, 1151, 1153, 1155, 1157, 1159, 1161, 1163, 1165, 1167, 1169, 1171, 1173, 117
5, 1177, 1179,
1181, 1183, 1185, 1187, 1189, 1191, 1193, 1195, 1197, 1199, 1201, 1203, 1205, 1207, 1209, 121
1, 1213, 1215,
1217, 1219, 1221, 1223, 1225, 1227, 1229, 1231, 1233, 1235, 1237, 1239, 1241, 1243, 1245, 124
7, 1249, 1251,
1253, 1255, 1257, 1259, 1261, 1263, 1265, 1267, 1269, 1271, 1273, 1275, 1277, 1279, 1281, 128
3, 1285, 1287,
1289, 1291, 1293, 1295, 1297, 1299, 1301, 1303, 1305, 1307, 1309, 1311, 1313, 1315, 1317, 131
9, 1321, 1323,
1325, 1327, 1329, 1331, 1333, 1335, 1337, 1339, 1341, 1343, 1345, 1347, 1349, 1351, 1353, 135
5, 1357, 1359,
1361, 1363, 1365, 1367, 1369, 1371, 1373, 1375, 1377, 1379, 1381, 1383, 1385, 1387, 1389, 139
1, 1393, 1395,
1397, 1399, 1401, 1403, 1405, 1407, 1409, 1411, 1413, 1415, 1417, 1419, 1421, 1423, 1425, 142
7, 1429, 1431,
1433, 1435, 1437, 1439, 1441, 1443, 1445, 1447, 1449, 1451, 1453, 1455, 1457, 1459, 1461, 146
3, 1465, 1467,
1469, 1471, 1473, 1475, 1477, 1479, 1481, 1483, 1485, 1487, 1489, 1491, 1493, 1495, 1497, 149
9]

l2 = [1005, 1011, 1017, 1023, 1029, 1035, 1041, 1047, 1053, 1059, 1065, 1071, 1077, 1083,
1089, 1095, 1101, 1107, 1113, 1119, 1125, 1131, 1137, 1143, 1149, 1155, 1161, 1167,
1173, 1179, 1185, 1191, 1197, 1203, 1209, 1215, 1221, 1227, 1233, 1239, 1245, 1251,
1257, 1263, 1269, 1275, 1281, 1287, 1293, 1299, 1305, 1311, 1317, 1323, 1329, 1335,
1341, 1347, 1353, 1359, 1365, 1371, 1377, 1383, 1389, 1395, 1401, 1407, 1413, 1419,
1425, 1431, 1437, 1443, 1449, 1455, 1461, 1467, 1473, 1479, 1485, 1491, 1497, 1005,
1015, 1025, 1035, 1045, 1055, 1065, 1075, 1085, 1095, 1105, 1115, 1125, 1135, 1145,
1155, 1165, 1175, 1185, 1195, 1205, 1215, 1225, 1235, 1245, 1255, 1265, 1275, 1285,
1295, 1305, 1315, 1325, 1335, 1345, 1355, 1365, 1375, 1385, 1395, 1405, 1415, 1425,
1435, 1445, 1455, 1465, 1475, 1485, 1495, 1001, 1015, 1029, 1043, 1057, 1071, 1085,
1099, 1113, 1127, 1141, 1155, 1169, 1183, 1197, 1211, 1225, 1239, 1253, 1267, 1281,
1295, 1309, 1323, 1337, 1351, 1365, 1379, 1393, 1407, 1421, 1435, 1449, 1463, 1477,
1491, 1001, 1023, 1045, 1067, 1089, 1111, 1133, 1155, 1177, 1199, 1221, 1243, 1265,
1287, 1309, 1331, 1353, 1375, 1397, 1419, 1441, 1463, 1485, 1001, 1027, 1053, 1079,
1105, 1131, 1157, 1183, 1209, 1235, 1261, 1287, 1313, 1339, 1365, 1391, 1417, 1443,
1469, 1495, 1003, 1037, 1071, 1105, 1139, 1173, 1207, 1241, 1275, 1309, 1343, 1377,
1411, 1445, 1479, 1007, 1045, 1083, 1121, 1159, 1197, 1235, 1273, 1311, 1349, 1387,
1425, 1463, 1035, 1081, 1127, 1173, 1219, 1265, 1311, 1357, 1403, 1449, 1495, 1015,
1073, 1131, 1189, 1247, 1305, 1363, 1421, 1479, 1023, 1085, 1147, 1209, 1271, 1333,
1395, 1457, 1369, 1443]

result = list(set(l1) - set(l2))
print(result)

```

```

[1153, 1283, 1031, 1033, 1163, 1039, 1297, 1171, 1301, 1373, 1303, 1471, 1049, 1051, 1181, 1439, 14
33, 1237, 1187, 1061, 1063, 1429, 1193, 1493, 1451, 1069, 1327, 1201, 1459, 1289, 1213, 1087, 1217,
1481, 1091, 1093, 1223, 1447, 1097, 1399, 1019, 1229, 1103, 1409, 1361, 1109, 1367, 1307, 1231, 111
7, 1499, 1249, 1123, 1319, 1381, 1489, 1129, 1259, 1021, 1009, 1427, 1423, 1013, 1487, 1321, 1291,
1453, 1279, 1277, 1483, 1151]

```

## Prime Numbers (1000-1500)

In [78]:

```

import sympy
list(sympy.primerange(1000, 1500))
print [list(sympy.primerange(1000, 1500))]

```

```

[[1009, 1013, 1019, 1021, 1031, 1033, 1039, 1049, 1051, 1061, 1063, 1069, 1087, 1091, 1093, 1097, 1
103, 1109, 1117, 1123, 1129, 1151, 1153, 1163, 1171, 1181, 1187, 1193, 1201, 1213, 1217, 1223, 1229
, 1231, 1237, 1249, 1259, 1277, 1279, 1283, 1289, 1291, 1297, 1301, 1303, 1307, 1319, 1321, 1327, 1
361, 1367, 1373, 1381, 1399, 1409, 1423, 1427, 1429, 1433, 1439, 1447, 1451, 1453, 1459, 1471, 1481
, 1483, 1487, 1489, 1493, 1499]]

```

## Prime - Prime = 0

In [79]:

```

l1 = [1153, 1283, 1031, 1033, 1163, 1039, 1297, 1171, 1301, 1373, 1303, 1471, 1049, 1051, 1181, 143
9, 1433,
1237, 1187, 1061, 1063, 1429, 1193, 1493, 1451, 1069, 1327, 1201, 1459, 1289, 1213, 1087, 121
7, 1481, 1091, 1093, 1223, 1447, 1097, 1399, 1019, 1229, 1103, 1409, 1361, 1109, 1367, 1307, 1231, 111
7, 1499, 1249, 1123, 1319, 1381, 1489, 1129, 1259, 1021, 1009, 1427, 1423, 1013, 1487, 1321, 1291,
1453, 1279, 1277, 1483, 1151]

```

```

1, 1401,
1091, 1093, 1223, 1447, 1097, 1399, 1019, 1229, 1103, 1409, 1361, 1109, 1367, 1307, 1231, 111
7, 1499,
1249, 1123, 1319, 1381, 1489, 1129, 1259, 1021, 1009, 1427, 1423, 1013, 1487, 1321, 1291, 145
3, 1279,
1277, 1483, 1151]

l2 = [1009, 1013, 1019, 1021, 1031, 1033, 1039, 1049, 1051, 1061, 1063, 1069, 1087, 1091, 1093, 109
7, 1103,
1109, 1117, 1123, 1129, 1151, 1153, 1163, 1171, 1181, 1187, 1193, 1201, 1213, 1217, 1223, 122
9, 1231,
1237, 1249, 1259, 1277, 1279, 1283, 1289, 1291, 1297, 1301, 1303, 1307, 1319, 1321, 1327, 136
1, 1367,
1373, 1381, 1399, 1409, 1423, 1427, 1429, 1433, 1439, 1447, 1451, 1453, 1459, 1471, 1481, 148
3, 1487,
1489, 1493, 1499]

result = list(set(l1) - set(l2))
print(result)

```

[]

∴1009, 1013, 1019, 1021, 1031, 1033, 1039, 1049, 1051, 1061, 1063, 1069, 1087, 1091, 1093, 1097, 1103, 1109, 1117, 1123, 1129, 1151, 1153, 1163, 1171, 1181, 1187, 1193, 1201, 1213, 1217, 1223, 1229, 1231, 1237, 1249, 1259, 1277, 1279, 1283, 1289, 1291, 1297, 1301, 1303, 1307, 1319, 1321, 1327, 1361, 1367, 1373, 1381, 1399, 1409, 1423, 1427, 1429, 1433, 1439, 1447, 1451, 1453, 1459, 1471, 1481, 1483, 1487, 1489, 1493, 1499 are prime numbers in 1000-1500

In [ ]: