

circle1.py (Page 1 of 1)

```

1: #!/usr/bin/env python
2:
3: #-----
4: # circle1.py
5: # Author: Bob Dondero
6: #-----
7:
8: import math
9:
10: #-----
11:
12: def main():
13:
14:     line = input("Enter the circle's radius:\n")
15:     radius = int(line)
16:
17:     diam = 2 * radius
18:     circum = math.pi * float(diam)
19:
20:     print('A circle with radius', radius, 'has diameter', diam)
21:     print('and circumference %f.' % circum)
22:
23: #-----
24:
25: if __name__ == '__main__':
26:     main()

```

circle2.py (Page 1 of 1)

```

1: #!/usr/bin/env python
2:
3: #-----
4: # circle2.py
5: # Author: Bob Dondero
6: #-----
7:
8: import sys
9: import math
10:
11: #-----
12:
13: def main():
14:
15:     try:
16:         line = input("Enter the circle's radius:\n")
17:         radius = int(line)
18:
19:         diam = 2 * radius
20:         circum = math.pi * float(diam)
21:
22:         print('A circle with radius', radius, 'has diameter', diam)
23:         print('and circumference %f.' % circum)
24:
25:     except Exception as ex:
26:         print(str(ex), file=sys.stderr)
27:
28: #-----
29:
30: if __name__ == '__main__':
31:     main()

```

circle3.py (Page 1 of 1)

```

1: #!/usr/bin/env python
2:
3: #-----
4: # circle3.py
5: # Author: Bob Dondero
6: #-----
7:
8: import sys
9: import math
10:
11: #-----
12:
13: def main():
14:
15:     try:
16:         line = input("Enter the circle's radius:\n")
17:         radius = int(line)
18:
19:         diam = 2 * radius
20:         circum = math.pi * float(diam)
21:
22:         print('A circle with radius', radius, 'has diameter', diam)
23:         print('and circumference %f.' % circum)
24:
25:     except ValueError:
26:         print('Error: Not an integer', file=sys.stderr)
27:
28:     except EOFError:
29:         print('Error: Missing integer', file=sys.stderr)
30:
31: #-----
32:
33: if __name__ == '__main__':
34:     main()

```

circle4.py (Page 1 of 1)

```

1: #!/usr/bin/env python
2:
3: #-----
4: # circle4.py
5: # Author: Bob Dondero
6: #-----
7:
8: import sys
9: import math
10:
11: #-----
12:
13: def read_radius():
14:
15:     line = input("Enter the circle's radius:\n")
16:     radius = int(line)
17:     return radius
18:
19: #-----
20:
21: def write_results(radius, diam, circum):
22:
23:     print('A circle with radius', radius, 'has diameter', diam)
24:     print('and circumference %f.' % circum)
25:
26: #-----
27:
28: def main():
29:
30:     try:
31:         radius = read_radius()
32:
33:         diam = 2 * radius
34:         circum = math.pi * float(diam)
35:
36:         write_results(radius, diam, circum)
37:
38:     except ValueError:
39:         print('Error: Not an integer', file=sys.stderr)
40:
41:     except EOFError:
42:         print('Error: Missing integer', file=sys.stderr)
43:
44:
45: #-----
46:
47: if __name__ == '__main__':
48:     main()

```

circle5.py (Page 1 of 1)

```
1: #!/usr/bin/env python
2:
3: #-----
4: # circle5.py
5: # Author: Bob Dondero
6: #-----
7:
8: import sys
9: import math
10:
11: #-----
12:
13: def read_radius():
14:
15:     line = input("Enter the circle's radius:\n")
16:     radius = int(line)
17:     return radius
18:
19: #-----
20:
21: def write_results(radius, diam, circum):
22:
23:     print('A circle with radius', radius, 'has diameter', diam)
24:     print('and circumference %f.' % circum)
25:
26: #-----
27:
28: def main():
29:
30:     try:
31:         radius = read_radius()
32:
33:         diam = 2 * radius
34:         circum = math.pi * float(diam)
35:
36:         write_results(radius, diam, circum)
37:
38:     except ValueError:
39:         print('Error: Not an integer', file=sys.stderr)
40:         sys.exit(1)
41:
42:     except EOFError:
43:         print('Error: Missing integer', file=sys.stderr)
44:         sys.exit(1)
45:
46: #-----
47:
48: if __name__ == '__main__':
49:     main()
```

blank (Page 1 of 1)

```
1: This page is intentionally blank.
```

euclidclient1.py (Page 1 of 1)

```

1: #!/usr/bin/env python
2:
3: #-----
4: # euclidclient1.py
5: # Author: Bob Dondero
6: #-----
7:
8: import sys
9:
10: #-----
11:
12: def gcd(i, j):
13:
14:     i = abs(i)
15:     j = abs(j)
16:     while j != 0: # Euclid's algorithm
17:         i, j = j, i%j
18:     return i
19:
20: #-----
21:
22: def lcm(i, j):
23:
24:     i = abs(i)
25:     j = abs(j)
26:     return (i // gcd(i, j)) * j
27:
28: #-----
29:
30: def main():
31:
32:     try:
33:         line = input('Enter the first integer: ')
34:         i = int(line)
35:
36:         line = input('Enter the second integer: ')
37:         j = int(line)
38:
39:         my_gcd = gcd(i, j)
40:         print('gcd:', my_gcd)
41:
42:         my_lcm = lcm(i, j)
43:         print('lcm:', my_lcm)
44:
45:     except ValueError:
46:         print('Error: Not an integer', file=sys.stderr)
47:         sys.exit(1)
48:     except EOFError:
49:         print('Error: Missing integer', file=sys.stderr)
50:         sys.exit(1)
51:
52: if __name__ == '__main__':
53:     main()

```

euclidclient2.py (Page 1 of 1)

```

1: #!/usr/bin/env python
2:
3: #-----
4: # euclidclient2.py
5: # Author: Bob Dondero
6: #-----
7:
8: import sys
9:
10: #-----
11:
12: def gcd(i, j):
13:
14:     if (i == 0) and (j == 0):
15:         raise ZeroDivisionError(
16:             'gcd(i,j) is undefined if i and j are 0')
17:     i = abs(i)
18:     j = abs(j)
19:     while j != 0: # Euclid's algorithm
20:         i, j = j, i%j
21:     return i
22:
23: #-----
24:
25: def lcm(i, j):
26:
27:     if (i == 0) or (j == 0):
28:         raise ZeroDivisionError(
29:             'lcm(i,j) is undefined if i or j is 0')
30:     i = abs(i)
31:     j = abs(j)
32:     return (i // gcd(i, j)) * j
33:
34: #-----
35:
36: def main():
37:
38:     try:
39:         line = input('Enter the first integer: ')
40:         i = int(line)
41:
42:         line = input('Enter the second integer: ')
43:         j = int(line)
44:
45:         my_gcd = gcd(i, j)
46:         print('gcd:', my_gcd)
47:
48:         my_lcm = lcm(i, j)
49:         print('lcm:', my_lcm)
50:
51:     except ValueError:
52:         print('Error: Not an integer', file=sys.stderr)
53:         sys.exit(1)
54:     except EOFError:
55:         print('Error: Missing integer', file=sys.stderr)
56:         sys.exit(1)
57:     except ZeroDivisionError as ex:
58:         print(str(ex), file=sys.stderr)
59:         sys.exit(1)
60:
61: if __name__ == '__main__':
62:     main()

```