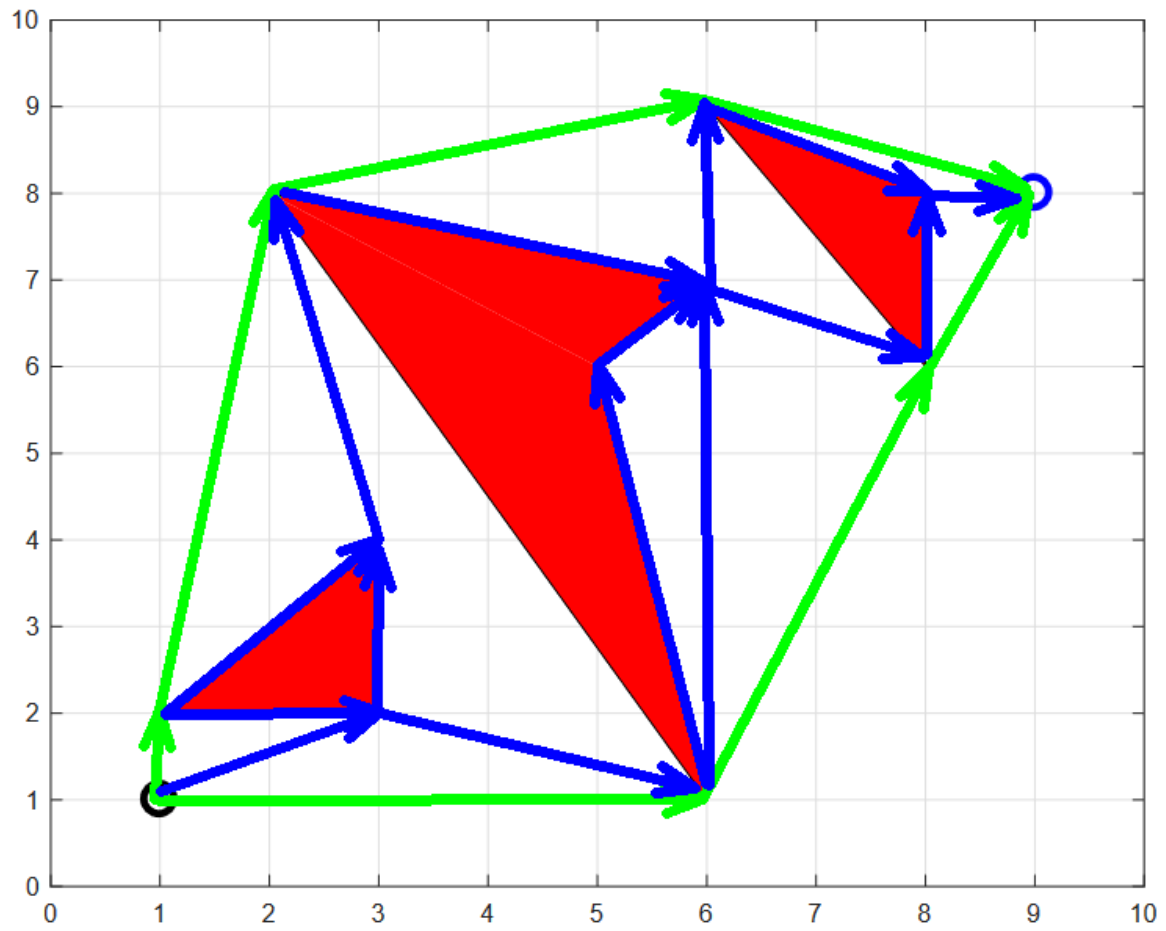


1.

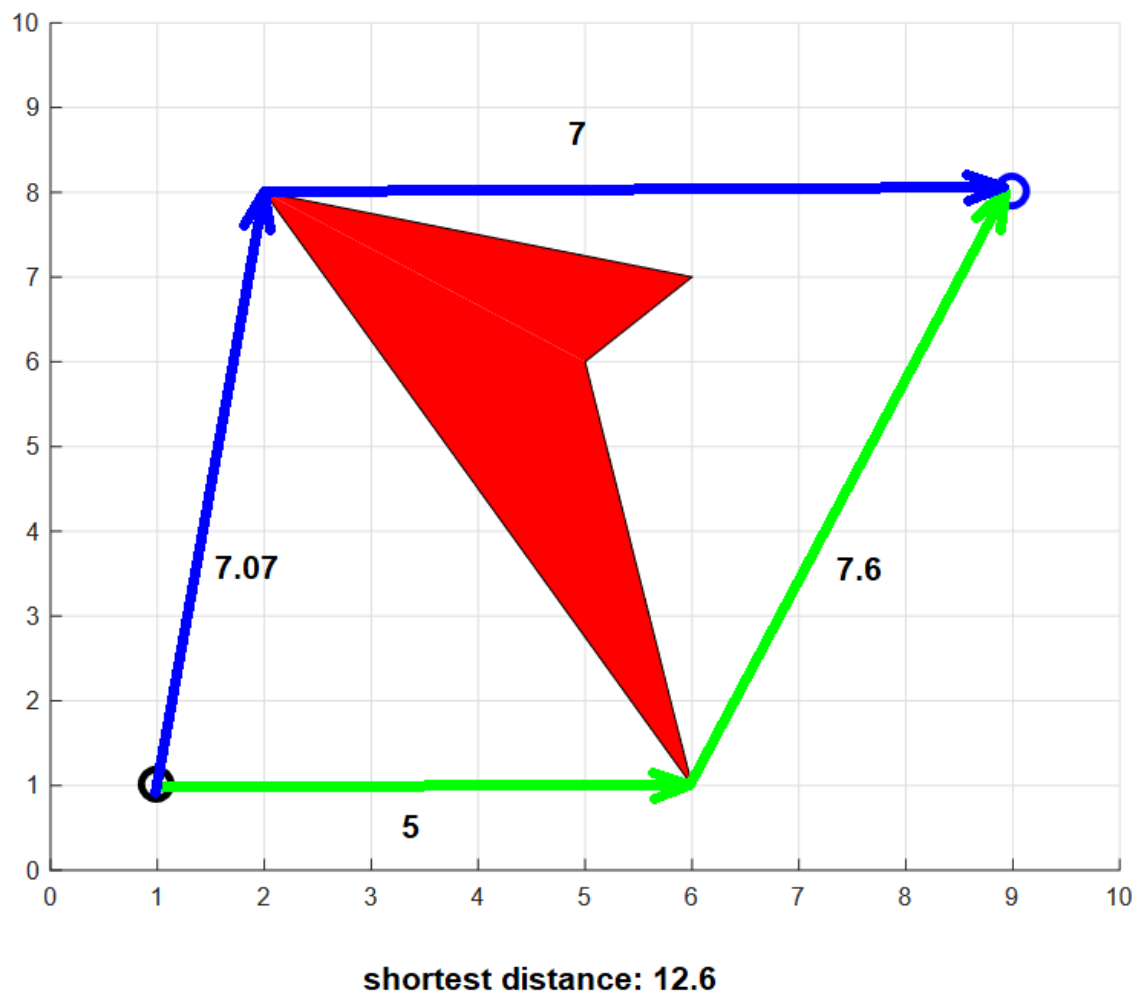
Green=reduced visibility



```
1 #hw1 problem 2
2 #import stuff here
3
4
5
6 #classes
7 class Node():
8     def __init__(self, x, y, parent_cost, index):
9
10         #attributes
11         self.x = x
12         self.y=y
13         self.parent_cost=parent_cost
14         self.index=index
15
16
17
18
19
```

2.

3.



4.

1 example code.py x hw1 number 2.py x untitled1.py x hw1 number 4 my way.py x hw1 number 4 class example.py x

```
1 #hw1 problem 4
2
3
4
5
6 #import stuff here
7 import matplotlib.pyplot as plt
8 import numpy as np
9
10
11 #classes
12 def compute_index(min_x:int, max_x:int, min_y:int, max_y:int,
13                  gs:int, x_curr:int, y_curr:int) ->int:
14     index = ((x_curr - min_x)/gs) + \
15             ((y_curr - min_y)/gs)* ( ((max_x + gs) - min_x)/gs))
16
17     return index
18
19
20
21
22 min_x = 0
23 max_x = 10
24 gs = 0.5
25
26 min_y = 0
27 max_y = 10
28
29 plt.axis([min_x,max_x+gs,min_y,max_y+gs])
30
31 for i in range(int((min_y/gs)), int((max_y/gs)+1)):
32     for j in range(int(min_x/gs), int((max_x/gs)+1)):
33         index = compute_index(min_x, max_x, min_y, max_y, gs, j, i)*gs
34         plt.text(j*gs, i*gs, str(int(index)), color="red", fontsize=8)
35
36
```

10 120 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440
399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419
378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398
357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377
336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356
315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335
294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314
273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293
252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272
231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251
210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230
189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209
168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188
147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167
126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146
105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125
84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104
63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Help Variable Explorer Plots Files

Console I/O X

exec(code, globals, locals)

File c:\users\michael englert\spyder-py3\untitled1.py:13
node1.position()

File c:\users\michael englert\spyder-py3\untitled1.py:18 in position
print("node position is ", self.x + ", " + self.y)

TypeError: unsupported operand type(s) for +: 'int' and 'str'

In [99]: runfile('C:/Users/michael englert/./spyder-py3/untitled1.py', wdir='C:/Users/michael englert/./spyder-py3')

In [100]: runfile('C:/Users/michael englert/Desktop/Michael_Englert_Unmanned_System class example.py', wdir='C:/Users/michael englert/Desktop/Michael_Englert_Unmanned_System class example.py')

In [101]: runfile('C:/Users/michael englert/./spyder-py3/Lab 1 example code.py', wdir='C:/Users/michael englert/./spyder-py3')

Python Console History

conda (Python 3.11.4) LSP: Python Line 15, Col 50

```
1 #hw1 problem 2
2 #import stuff here
3
4
5
6 #classes
7 class Node():
8     def __init__(self, x, y, parent_cost, index):
9
10
11         #attributes
12         self.x = x
13         self.y=y
14         self.parent_cost=parent_cost
15         self.index=index
16
17
18
19
```