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In [14]: runfile('/Users/josephinemiller/Downloads/untitled0.py', wdir='/Users/josephinemiller/Downloads')
(768, 9)
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	preg	plas	pres	skin	test	mass	pedi	age	class
0	6	148	72	35	0	33.6	0.627	50	1
1	1	85	66	29	0	26.6	0.351	31	0
2	8	183	64	0	0	23.3	0.672	32	1
3	1	89	66	23	94	28.1	0.167	21	0
4	0	137	40	35	168	43.1	2.288	33	1
5	5	116	74	0	0	25.6	0.201	30	0
6	3	78	50	32	88	31.0	0.248	26	1
7	10	115	0	0	0	35.3	0.134	29	0
8	2	197	70	45	543	30.5	0.158	53	1
9	8	125	96	0	0	0.0	0.232	54	1
10	4	110	92	0	0	37.6	0.191	30	0
11	10	168	74	0	0	38.0	0.537	34	1
12	10	139	80	0	0	27.1	1.441	57	0
13	1	189	60	23	846	30.1	0.398	59	1
14	5	166	72	19	175	25.8	0.587	51	1
15	7	100	0	0	0	30.0	0.484	32	1
16	0	118	84	47	230	45.8	0.551	31	1
17	7	107	74	0	0	29.6	0.254	31	1
18	1	103	30	38	83	43.3	0.183	33	0
19	1	115	70	30	96	34.6	0.529	32	1

```
Bagging Method Accuracy: 0.7597402597402597
Decision Tree Accuracy: 0.7467532467532467
Random Forests Accuracy: 0.7662337662337663
Out-of-Bag Score: 0.7654723127035831
AdaBoost Accuracy: 0.7467532467532467
Random Forest Accuracy with max_depth=2: 0.7857142857142857
Random Forest Accuracy with max_depth=3: 0.7792207792207793
Random Forest Accuracy with max_depth=4: 0.7857142857142857
Random Forest Accuracy with max_depth=5: 0.7727272727272727
AdaBoost Accuracy with learning_rate=0.1: 0.7662337662337663
AdaBoost Accuracy with learning_rate=0.2: 0.7727272727272727
AdaBoost Accuracy with learning_rate=0.3: 0.7532467532467533
AdaBoost Accuracy with learning_rate=0.4: 0.7467532467532467
AdaBoost Accuracy with learning_rate=0.5: 0.7467532467532467
AdaBoost Accuracy with learning_rate=1.0: 0.7467532467532467
AdaBoost Accuracy with learning_rate=1.5: 0.6818181818181818
AdaBoost Accuracy with learning_rate=2.0: 0.2597402597402597
Bagging Method Cross-Validation Scores: [0.75324675 0.72727273 0.75974026 0.82352941 0.75163399]
Bagging Method Mean Cross-Validation Score: 0.7630846277905101
Decision Tree Cross-Validation Scores: [0.71428571 0.66233766 0.66883117 0.81045752 0.74509804]
Decision Tree Mean Cross-Validation Score: 0.7202020202020203
Random Forests Cross-Validation Scores: [0.77272727 0.73376623 0.75324675 0.81699346 0.75816993]
Random Forests Mean Cross-Validation Score: 0.7669807316866141
Out-of-Bag Score: 0.7669270833333334
AdaBoost Cross-Validation Scores: [0.74025974 0.72727273 0.77272727 0.81045752 0.75163399]
AdaBoost Mean Cross-Validation Score: 0.7604702487055428
```





