Lab Test –1

Name- Aritra Ray

Roll No.- 21IM10008
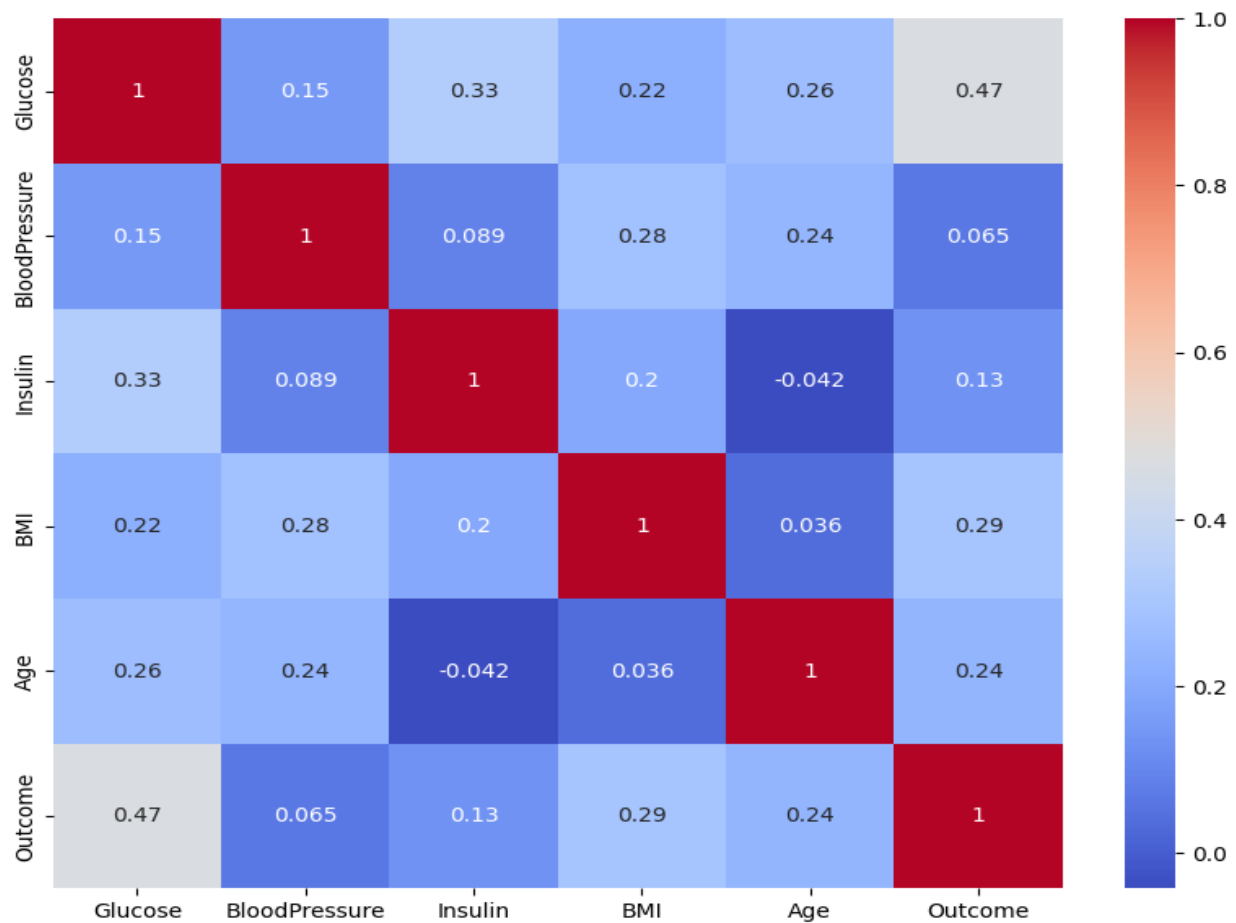
#Experiment 1

index	Glucose	BloodPressure	Insulin	BMI	Age	Outcome
0	148	72	0	33.6	50	1
1	85	66	0	26.6	31	0
2	183	64	0	23.3	32	1
3	89	66	94	28.1	21	0
4	137	40	168	43.1	33	1
5	116	74	0	25.6	30	0
6	78	50	88	31.0	26	1
7	115	0	0	35.3	29	0
8	197	70	543	30.5	53	1
9	125	96	0	0.0	54	1

#Experiment 2

index	Glucose	BloodPressure	Insulin	BMI	Age	Outcome
Glucose	1.0	0.1525895865686646	0.3313571099202092	0.2210710694589828	0.26351431982433343	0.46658139830680687373
BloodPressure	0.1525895865686646	1.0	0.08893337837319314	0.2818052888499109	0.23952794642136344	0.06506835955033277
Insulin	0.3313571099202092	0.08893337837319314	1.0	0.19785905649310145	-0.04216295473537695	0.13054795488404794

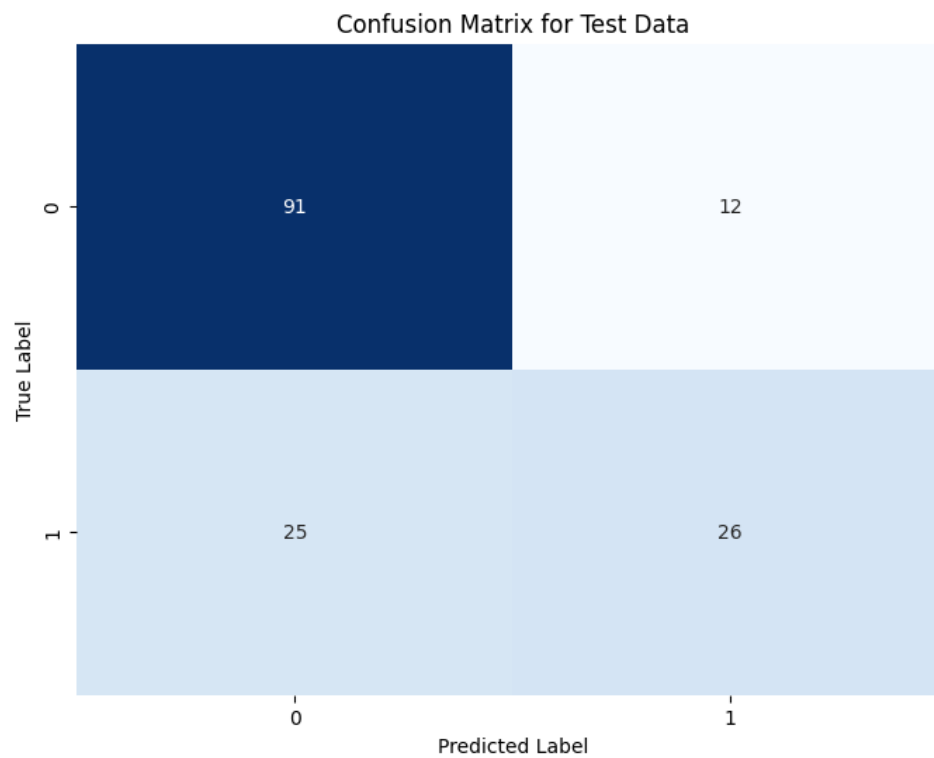|						
BMI	0.221071069 4589828	0.281805288 8499109	0.197859056 49310145	1.0	0.03624187009 229395	0.292694 6626444 454
Age	0.263514319 82433343	0.239527946 42136344	-0.042162954 73537695	0.036241870 09229395	1.0	0.238355 9830271 9757
Outco me	0.466581398 30687373	0.065068359 55033277	0.130547954 88404794	0.292694662 6444454	0.23835598302 719757	1.0

Observations:

I have not found any two of the features having correlation value >0.5. So, according to me there is not much correlation between the features.

#Experiment 3

Percentage Accuracy on Training Dataset: 78.0130293159609

Percentage Accuracy on Testing Dataset: 75.97402597402598

Confusion Matrix for Test Data

#Experiment 4

Optimal Learning Rate: 1e-05

Percentage Accuracy on Training Dataset in optimal learning rate: 64.49511400651465

Percentage Accuracy on Testing Dataset in optimal learning rate: 66.23376623376623

Confusion Matrix for Test Data