STEP INPUT

Method CFL	FTFS	FTCS	FTBS	LW	BW	FR
0.5	Solution after 0.2 is not affected and graph before that explodes	Solution is affected on both sides and graph explodes	Step travels forward but step length decreases	Step travels forwards but gets distorted	Step travels forwards but gets distorted	Distortion at the edges
1	Solution after 0.2 is not affected and graph before that explodes	Solution is affected on both sides and error propogates faster	Step travels forward exactly as expected	Step travels forward exactly as expected	Step travels forward exactly as expected	Step travels forward exactly as expected
1.5	Solution after 0.2 is not affected and graph before that explodes	Solution is affected on both sides and error propogates even faster	Graph explodes	Graph explodes	Step travels forwards but gets distorted and travels faster	Graph explodes due to LW part

SIN WAVE FREQUENCY 4*PI

Method CFL	FTFS	FTCS	FTBS	LW	BW	FR
0.5	Solution after 0.35 is not affected and graph before that explodes	Solution is affected on both sides and graph explodes	Step travels forward but amplitude of sin wave decreases	Step travels forwards but gets distorted	Step travels forwards but gets distorted	Distortion at the edges
1	Solution after 0.35 is not affected and graph before that explodes	Solution is affected on both sides and error propogates faster	Step travels forward exactly as expected	Step travels forward exactly as expected	Step travels forward exactly as expected	Step travels forward exactly as expected
1.5	Solution after 0.35 is not affected and graph before that explodes	Solution is affected on both sides and error propogates even faster	Graph explodes	Graph explodes	Step travels forwards but die out and travels faster	Graph explodes due to LW part

SIN WAVE FREQUENCY 8*PI

Method CFL	FTFS	FTCS	FTBS	LW	BW	FR
0.5	Solution after 0.35 is not affected and graph before that explodes	Solution is affected on both sides and graph explodes	Step travels forward but amplitude of sin wave decreases	Step travels forwards but gets distorted and the amplitude decreases continuosly	Step travels forwards but gets distorted	Distortion at the edges
1	Solution after 0.35 is not affected and graph before that explodes	Solution is affected on both sides and error propogates faster	Step travels forward exactly as expected	Step travels forward exactly as expected	Step travels forward exactly as expected	Step travels forward exactly as expected
1.5	Solution after 0.35 is not affected and graph before that explodes	Solution is affected on both sides and error propogates even faster	Graph explodes	Graph explodes	Step travels forwards but die out and travels faster	Graph explodes due to LW part

SIN WAVE FREQUENCY 12*PI

Method CFL	FTFS	FTCS	FTBS	LW	BW	FR
0.5	Solution after 0.35 is not affected and graph before that explodes	Solution is affected on both sides and graph explodes	Step travels forward but amplitude of sin wave decreases	Step travels forwards but gets distorted and the amplitude decreases continuosly at higher rate than 8*PI	Step travels forwards but gets distorted	Distortion at the edges
1	Solution after 0.35 is not affected and graph before that explodes	Solution is affected on both sides and error propogates faster	Step travels forward exactly as expected	Step travels forward exactly as expected	Step travels forward exactly as expected	Step travels forward exactly as expected
1.5	Solution after 0.35 is not affected and graph before that explodes	Solution is affected on both sides and error propogates even faster	Graph explodes	Graph explodes	Step travels forwards but die out faster than all frequencies and travels faster	Graph explodes due to LW part