Program Code

```
TimedDist* raceTimes = NULL;
int numTimes = 3; // Initial array size
TimedDist newTime;
int newTimePos = 2;
int i = 0;

// Allocate array for numTimes TimedDist elements
raceTimes = (TimedDist *)malloc(sizeof(TimedDist) * numTimes);
if (raceTimes == NULL) {
   printf("Unable to allocate memory\n");
   return EXIT_FAILURE;
}

InitializeTimedDist(raceTimes, numTimes);

// Insert new time within the raceTimes array
newTime.distMiles = 10.5;
newTime.timeMin = 4;
newTime.timeSecs = 14.5;
newTimePos = 2;
raceTimes = InsertTime(raceTimes, &numTimes,
                       newTimePos, newTime);
```

Assume realloc() returns 5636.

↳ Implies raceTimes was relocated during the reallocation and now is located in a new location

Memory - Stack

Address	Contents	Variable Name
100	~~5436~~ 5636	raceTimes
104	~~3~~ 4	numTimes
105	4	
106	14.5	newTime
107	10.5	
108	2	newTimePos
109	0	i
110		
111		
112		
113		
114		
115		
116		
117		
118		
119		
120		
121		
122		
123		
124		
125		

Memory - Heap

Address	Contents	Variable Name
5436	0	
	0.0	
	0.0	
	0	
	0.0	
	0.0	
	0	
	0.0	
	0.0	
5636	0	
	0.0	[0]
	0.0	
	0	
	0.0	[1]
	0.0	
	~~4~~	
	14.5	[2]
	10.5	
	0	
	0.0	[3]
	0.0	