

Assignment 3.2

Ans1

Vectorized form

```
set.seed(42)
```

```
#create matrix
```

```
mat_1<- replicate(10,rnorm(10))
```

```
#transform into data frame
```

```
df_1= data.frame(mat_1)
```

```
df_1<- df_1 + 10*sin(0.75*pi)
```

```
#non-vectorized form
```

```
set.seed(42)
```

```
#create matrix
```

```
mat_1<- replicate(10,rnorm(10))
```

```
#transform into data frame  df_1= data.frame(mat_1)
```

```
for(i in 1:10){
```

```
  for(j in 1:10){
```

```
    df_1[i,j]<- df_1[i,j] + 10*sin(0.75*pi)
```

```
    print(df_1)
```

```
  }
```

```
}
```

```
#time difference
```

```
system.time(
```

```
  df_1[i,j]<- df_1[i,j] + 10*sin(0.75*pi)
```

```
)
```

```
system.time(
```

```
  for(i in 1:10){
```

```
    for(j in 1:10){
```

```
      df_1[i,j]<- df_1[i,j] + 10*sin(0.75*pi)
```

```
    }
```

```
  }
```

```
)
```