

1.

a.

```
mc_estimate = function(f) {  
  x = runif(10000)  
  y = sapply(x, f)  
  return(mean(y))  
}
```

b.

```
> mc_estimate = function(f) {  
+   x = runif(10000)  
+   y = sapply(x, f)  
+   return(mean(y))  
+ }  
> f = function(x) exp(-(x^2))  
> mc_estimate(f)  
[1] 0.7496916  
> |
```

c.

```
> f = function(x) sin(cos(sin(x)))  
> mc_estimate(f)  
[1] 0.7604602  
> |
```

2.