

Programming in Base R

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Task 1: Basic Vector practice

Question 1

```
pre<-c(130, 128, 116, 124, 133, 134, 118, 126, 114, 127, 141, 138, 128, 140,  
       137, 131, 120, 128, 139, 135)  
post<-c(114, 98, 113, 99, 107, 116, 113, 111, 119, 117, 101, 119, 130, 122,  
        106, 106, 124, 102, 117, 113)
```

Question 2

```
names(pre)<-paste("Subject",1:20,sep="_")  
names(post)<-paste("Subject",1:20,sep="_")
```

Question 3

```
diff_op<-pre-post  
diff_op
```

Subject_1	Subject_2	Subject_3	Subject_4	Subject_5	Subject_6	Subject_7
16	30	3	25	26	18	5
Subject_8	Subject_9	Subject_10	Subject_11	Subject_12	Subject_13	Subject_14
15	-5	10	40	19	-2	18
Subject_15	Subject_16	Subject_17	Subject_18	Subject_19	Subject_20	
31	25	-4	26	22	22	

Question 4

```
avg_decrease<-mean(diff_op)
avg_decrease
```

```
[1] 17
```

Question 5

```
positive_change<-which(diff_op>0)
positive_change
```

Subject_1	Subject_2	Subject_3	Subject_4	Subject_5	Subject_6	Subject_7
1	2	3	4	5	6	7
Subject_8	Subject_10	Subject_11	Subject_12	Subject_14	Subject_15	Subject_16
8	10	11	12	14	15	16
Subject_18	Subject_19	Subject_20				
18	19	20				

Question 6

```
diff_op_positive_change<-diff_op[positive_change]
diff_op_positive_change
```

Subject_1	Subject_2	Subject_3	Subject_4	Subject_5	Subject_6	Subject_7
16	30	3	25	26	18	5
Subject_8	Subject_10	Subject_11	Subject_12	Subject_14	Subject_15	Subject_16
15	10	40	19	18	31	25
Subject_18	Subject_19	Subject_20				
26	22	22				

Question 7

```
mean(diff_op_positive_change)
```

```
[1] 20.64706
```