SM Practical 1

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```
> #Question 1
> print("Question 1")
[1] "Question 1"
> x <- c(4,7,8,9,10,12,13,17)
> print(x)
[1]  4  7  8  9 10 12 13 17
> mean_x <- mean(x)
> print(mean_x)
[1] 10
> deviation_x <-abs(x - mean_x)
> print(deviation_x)
[1] 6 3 2 1 0 2 3 7
> final_answer <- sum(deviation_x)/length(deviation_x)
> print(final_answer)
[1] 3
```

```
> #Question 2
> print('Question 2')
[1] "Question 2"
> x <- c(38,70,48,40,42,55,63,46,54,44)
> print(x)
 [1] 38 70 48 40 42 55 63 46 54 44
> mean_x <- mean(x)
> print(mean_x)
[1] 50
> deviation_x <- abs(x - mean_x)
> print(deviation_x)
 [1] 12 20  2 10  8  5 13  4  4  6
> final_answer <- sum(deviation_x)/length(deviation_x)
> print(final_answer)
[1] 8.4
```

```
> #Question 3
> print('Question 3')
[1] "Question 3"
> x <- c(10,11,11,12,13,13,14,16,16,17,17,18)
> print(x)
 [1] 10 11 11 12 13 13 14 16 16 17 17 18
> median_x <- median(x)
> print(median_x)
[1] 13.5
> deviation_x <- abs(x - median_x)
> print(deviation_x)
 [1] 3.5 2.5 2.5 1.5 0.5 0.5 0.5 2.5 2.5 3.5 3.5 4.5
> final_answer <- sum(deviation_x)/length(deviation_x)
> print(final_answer)
[1] 2.333333
```

```
> #Question 4
> print("Question 4")
[1] "Question 4"
> x <- c(36,42,45,46,46,49,51,53,60,72)
> print(x)
 [1] 36 42 45 46 46 49 51 53 60 72
> median_x <- median(x)
> print(median_x)
[1] 47.5
> deviation_x <- abs(x - median_x)
> print(deviation_x)
 [1] 11.5  5.5  2.5  1.5  1.5  1.5  3.5  5.5 12.5 24.5
> final_answer <- sum(deviation_x)/length(deviation_x)
> print(final_answer)
[1] 7
```

```
> #Question 5
> print('Question 5')
[1] "Question 5"
> x <- c(5,10,15,20,25)
> f <- c(7,4,6,3,5)
> print(x)
[1]  5 10 15 20 25
> print(f)
[1] 7 4 6 3 5
> print(x*f)
[1]  35  40  90  60 125
> mean_x <- sum(x*f)/sum(f)
> print(mean_x)
[1] 14
> deviation_x <- abs(x - mean_x)
> print(deviation_x)
[1]  9  4  1  6 11
> final_answer <- sum(deviation_x*f)/sum(f)
> print(final_answer)
[1] 6.32
```

```
> #Question 6
> print("Question 6")
[1] "Question 6"
> x <- c(10,30,50,70,90)
> f <- c(4,24,28,16,8)
> print(x)
[1] 10 30 50 70 90
> print(f)
[1]  4 24 28 16  8
> print(x*f)
[1]   40  720 1400 1120  720
> mean_x <- sum(x*f)/sum(f)
> print(mean_x)
[1] 50
> deviation_x <- abs(x - mean_x)
> print(deviation_x)
[1] 40 20  0 20 40
> final_answer <- sum(deviation_x*f)/sum(f)
> print(final_answer)
[1] 16
```

```
> #Question 7
> print('Question 7')
[1] "Question 7"
> q7 = c(5,7,9,10,12,15)
> f7 = c(8,6,2,2,2,6)
> i = sum(f7)
> j = i/2
> j = abs(j)
> print(j)
[1] 13
> me7 = 7
> x7 = q7 - me7
> x7 = abs(x7)
> fx7 = f7*x7
> fx7 = sum(fx7)
> result7 = fx7/i
> print(result7)
[1] 3.230769
```

```
> # Question 8
> print("Question 8")
[1] "Question 8"
> q8 = c(15,21,27,30,35)
> f8 = c(3,5,6,7,8)
> ie = sum(f8)
> je = ie/2
> je = abs(je)
> print(je)
[1] 14.5
> me8 = 30
> x8 = q8 - me8
> x8 = abs(x8)
> fx8 = f8*x8
> fx8 = sum(fx8)
> result8 = fx8/ie
> print(result8)
[1] 5.103448
```

```
> #Question 9
> print("Question 9")
[1] "Question 9"
> x <- c(50,150,250,350,450,550,650,750)
> f <- c(4,8,9,10,7,5,4,3)
> print(x)
[1]  50 150 250 350 450 550 650 750
> print(f)
[1]  4  8  9 10  7  5  4  3
> print(x*f)
[1]  200 1200 2250 3500 3150 2750 2600 2250
> mean_x <- sum(x*f)/sum(f)
> print(mean_x)
[1] 358
> deviation_x <- abs(x - mean_x)
> print(deviation_x)
[1] 308 208 108   8  92 192 292 392
> final_answer <- sum(deviation_x*f)/sum(f)
> print(final_answer)
[1] 157.92
```

```
> # Question 10
> print("Question 10")
[1] "Question 10"
> x <- c(100,110,120,130,140,150)
> f <- c(9,13,26,30,12,10)
> print(x)
[1] 100 110 120 130 140 150
> print(f)
[1]  9 13 26 30 12 10
> print(x*f)
[1]  900 1430 3120 3900 1680 1500
> mean_x <- sum(x*f)/sum(f)
> print(mean_x)
[1] 125.3
> deviation_x <- abs(x - mean_x)
> print(deviation_x)
[1] 25.3 15.3  5.3  4.7 14.7 24.7
> final_answer <- sum(deviation_x*f)/sum(f)
> print(final_answer)
[1] 11.288
>
```