

RWorksheet_Montrealto#1

Pierre Vincent S. Montevalto Jr.

2024-09-20

```
age <- c(34, 28, 22, 36, 27, 18, 52, 39, 42, 29,  
        35, 31, 27, 22, 37, 34, 19, 20, 57, 49,  
        50, 37, 46, 25, 17, 37, 42, 53, 41, 51,  
        35, 24, 33, 41)
```

```
# a. How many data points?  
length(age)
```

```
## [1] 34
```

```
#34 data points
```

```
reciprocal_age <- 1/age  
reciprocal_age
```

```
## [1] 0.02941176 0.03571429 0.04545455 0.02777778 0.03703704 0.05555556  
## [7] 0.01923077 0.02564103 0.02380952 0.03448276 0.02857143 0.03225806  
## [13] 0.03703704 0.04545455 0.02702703 0.02941176 0.05263158 0.05000000  
## [19] 0.01754386 0.02040816 0.02000000 0.02702703 0.02173913 0.04000000  
## [25] 0.05882353 0.02702703 0.02380952 0.01886792 0.02439024 0.01960784  
## [31] 0.02857143 0.04166667 0.03030303 0.02439024
```

```
new_age <- c(age, 0, age)  
new_age
```

```
## [1] 34 28 22 36 27 18 52 39 42 29 35 31 27 22 37 34 19 20 57 49 50 37 46 25 17  
## [26] 37 42 53 41 51 35 24 33 41 0 34 28 22 36 27 18 52 39 42 29 35 31 27 22 37  
## [51] 34 19 20 57 49 50 37 46 25 17 37 42 53 41 51 35 24 33 41
```

```
sorted_age <- sort(age)  
sorted_age
```

```
## [1] 17 18 19 20 22 22 24 25 27 27 28 29 31 33 34 34 35 35 36 37 37 37 39 41 41  
## [26] 42 42 46 49 50 51 52 53 57
```

```
min_age <- min(age)  
max_age <- max(age)  
max_age
```

```
## [1] 57
```

```
min_age <- min(age)  
max_age <- max(age)  
min_age
```

```
## [1] 17
```

```
data <- c(2.4, 2.8, 2.1, 2.5, 2.4, 2.2, 2.5, 2.3, 2.5, 2.3, 2.4, 2.7)
#a. How many data points?
length(data)
```

```
## [1] 12
```

```
# 12 data points
```

```
doubled_data <- 2 * data
doubled_data
```

```
## [1] 4.8 5.6 4.2 5.0 4.8 4.4 5.0 4.6 5.0 4.6 4.8 5.4
```

```
# What happen to the data?
# The values of of data are doubled.
```

```
seq_1to100 <- seq(1, 100)
seq_1to100
```

```
## [1] 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
## [19] 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
## [37] 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54
## [55] 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72
## [73] 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90
## [91] 91 92 93 94 95 96 97 98 99 100
```

```
seq_20to60 <- seq(20, 60)
seq_20to60
```

```
## [1] 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44
## [26] 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
```

```
seqmean_20to60 <- mean(seq(20, 60))
seqmean_20to60
```

```
## [1] 40
```

```
numsum_51to91 <- sum(seq(51, 91))
numsum_51to91
```

```
## [1] 2911
```

```
seq_1to1000 <- seq(1, 1000)
seq_1to1000
```

```
## [1] 1 2 3 4 5 6 7 8 9 10 11 12 13 14
## [15] 15 16 17 18 19 20 21 22 23 24 25 26 27 28
## [29] 29 30 31 32 33 34 35 36 37 38 39 40 41 42
## [43] 43 44 45 46 47 48 49 50 51 52 53 54 55 56
## [57] 57 58 59 60 61 62 63 64 65 66 67 68 69 70
## [71] 71 72 73 74 75 76 77 78 79 80 81 82 83 84
## [85] 85 86 87 88 89 90 91 92 93 94 95 96 97 98
## [99] 99 100 101 102 103 104 105 106 107 108 109 110 111 112
## [113] 113 114 115 116 117 118 119 120 121 122 123 124 125 126
## [127] 127 128 129 130 131 132 133 134 135 136 137 138 139 140
## [141] 141 142 143 144 145 146 147 148 149 150 151 152 153 154
## [155] 155 156 157 158 159 160 161 162 163 164 165 166 167 168
## [169] 169 170 171 172 173 174 175 176 177 178 179 180 181 182
## [183] 183 184 185 186 187 188 189 190 191 192 193 194 195 196
```

##	[197]	197	198	199	200	201	202	203	204	205	206	207	208	209	210
##	[211]	211	212	213	214	215	216	217	218	219	220	221	222	223	224
##	[225]	225	226	227	228	229	230	231	232	233	234	235	236	237	238
##	[239]	239	240	241	242	243	244	245	246	247	248	249	250	251	252
##	[253]	253	254	255	256	257	258	259	260	261	262	263	264	265	266
##	[267]	267	268	269	270	271	272	273	274	275	276	277	278	279	280
##	[281]	281	282	283	284	285	286	287	288	289	290	291	292	293	294
##	[295]	295	296	297	298	299	300	301	302	303	304	305	306	307	308
##	[309]	309	310	311	312	313	314	315	316	317	318	319	320	321	322
##	[323]	323	324	325	326	327	328	329	330	331	332	333	334	335	336
##	[337]	337	338	339	340	341	342	343	344	345	346	347	348	349	350
##	[351]	351	352	353	354	355	356	357	358	359	360	361	362	363	364
##	[365]	365	366	367	368	369	370	371	372	373	374	375	376	377	378
##	[379]	379	380	381	382	383	384	385	386	387	388	389	390	391	392
##	[393]	393	394	395	396	397	398	399	400	401	402	403	404	405	406
##	[407]	407	408	409	410	411	412	413	414	415	416	417	418	419	420
##	[421]	421	422	423	424	425	426	427	428	429	430	431	432	433	434
##	[435]	435	436	437	438	439	440	441	442	443	444	445	446	447	448
##	[449]	449	450	451	452	453	454	455	456	457	458	459	460	461	462
##	[463]	463	464	465	466	467	468	469	470	471	472	473	474	475	476
##	[477]	477	478	479	480	481	482	483	484	485	486	487	488	489	490
##	[491]	491	492	493	494	495	496	497	498	499	500	501	502	503	504
##	[505]	505	506	507	508	509	510	511	512	513	514	515	516	517	518
##	[519]	519	520	521	522	523	524	525	526	527	528	529	530	531	532
##	[533]	533	534	535	536	537	538	539	540	541	542	543	544	545	546
##	[547]	547	548	549	550	551	552	553	554	555	556	557	558	559	560
##	[561]	561	562	563	564	565	566	567	568	569	570	571	572	573	574
##	[575]	575	576	577	578	579	580	581	582	583	584	585	586	587	588
##	[589]	589	590	591	592	593	594	595	596	597	598	599	600	601	602
##	[603]	603	604	605	606	607	608	609	610	611	612	613	614	615	616
##	[617]	617	618	619	620	621	622	623	624	625	626	627	628	629	630
##	[631]	631	632	633	634	635	636	637	638	639	640	641	642	643	644
##	[645]	645	646	647	648	649	650	651	652	653	654	655	656	657	658
##	[659]	659	660	661	662	663	664	665	666	667	668	669	670	671	672
##	[673]	673	674	675	676	677	678	679	680	681	682	683	684	685	686
##	[687]	687	688	689	690	691	692	693	694	695	696	697	698	699	700
##	[701]	701	702	703	704	705	706	707	708	709	710	711	712	713	714
##	[715]	715	716	717	718	719	720	721	722	723	724	725	726	727	728
##	[729]	729	730	731	732	733	734	735	736	737	738	739	740	741	742
##	[743]	743	744	745	746	747	748	749	750	751	752	753	754	755	756
##	[757]	757	758	759	760	761	762	763	764	765	766	767	768	769	770
##	[771]	771	772	773	774	775	776	777	778	779	780	781	782	783	784
##	[785]	785	786	787	788	789	790	791	792	793	794	795	796	797	798
##	[799]	799	800	801	802	803	804	805	806	807	808	809	810	811	812
##	[813]	813	814	815	816	817	818	819	820	821	822	823	824	825	826
##	[827]	827	828	829	830	831	832	833	834	835	836	837	838	839	840
##	[841]	841	842	843	844	845	846	847	848	849	850	851	852	853	854
##	[855]	855	856	857	858	859	860	861	862	863	864	865	866	867	868
##	[869]	869	870	871	872	873	874	875	876	877	878	879	880	881	882
##	[883]	883	884	885	886	887	888	889	890	891	892	893	894	895	896
##	[897]	897	898	899	900	901	902	903	904	905	906	907	908	909	910
##	[911]	911	912	913	914	915	916	917	918	919	920	921	922	923	924
##	[925]	925	926	927	928	929	930	931	932	933	934	935	936	937	938
##	[939]	939	940	941	942	943	944	945	946	947	948	949	950	951	952

```
## [953] 953 954 955 956 957 958 959 960 961 962 963 964 965 966
## [967] 967 968 969 970 971 972 973 974 975 976 977 978 979 980
## [981] 981 982 983 984 985 986 987 988 989 990 991 992 993 994
## [995] 995 996 997 998 999 1000

totaldata <- length(seq_1to100) + length(seq_20to60) + length(seqmean_20to60) + length(numsum_51to91)
totaldata

## [1] 143

# a. How many data points from 8.1 to 8.4?
#143 data points from 8.1 to 8.4.

seq_1to1000 <- seq(1, 1000)
subset_until_10 <- seq_1to1000[c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10)]
max_value <- max(subset_until_10)
max_value

## [1] 10

filteredval <- Filter(function(i) { all(i %% c(3, 5, 7) != 0) }, seq(100))
filteredval

## [1] 1 2 4 8 11 13 16 17 19 22 23 26 29 31 32 34 37 38 41 43 44 46 47 52 53
## [26] 58 59 61 62 64 67 68 71 73 74 76 79 82 83 86 88 89 92 94 97

seq_100to1 <- seq(100, 1, by=-1)
seq_100to1

## [1] 100 99 98 97 96 95 94 93 92 91 90 89 88 87 86 85 84 83
## [19] 82 81 80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65
## [37] 64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47
## [55] 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29
## [73] 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11
## [91] 10 9 8 7 6 5 4 3 2 1

multiples <- Filter(function(x) { x %% 3 == 0 || x %% 5 == 0 }, seq(1, 24))
multiples

## [1] 3 5 6 9 10 12 15 18 20 21 24

TotalDataPoints <- length(multiples) + length(seq_100to1)
TotalDataPoints

## [1] 111

# a. How many data points from 10 to 11?
#111 data points from 10 to 11.

# Enter this statement:
#x <- {0 + x + 5 + }
# Describe the output.
# x <- {0 + x + 5 + } This statement results into a syntax error

score <- c(72, 86, 92, 63, 88, 89, 91, 92, 75, 75, 77)
score[2]

## [1] 86

score <- c(72, 86, 92, 63, 88, 89, 91, 92, 75, 75, 77)
score[3]
```

```
## [1] 92
a <- c(1, 2, NA, 4, NA, 6, 7)
print(a, na.print="-999")

## [1]      1      2 -999      4 -999      6      7
name = readline(prompt="Input your name: ")

## Input your name:
age = readline(prompt="Input your age: ")

## Input your age:
print(paste("My name is",name, "and I am",age ,"years old.))

## [1] "My name is  and I am  years old."
print(R.version.string)

## [1] "R version 4.4.1 (2024-06-14)"
```