

1.

//tempX is a variable

```
> for(i in 2:250)
+ tempX[i-1] <- (yVec[i] - xVec[i-1])
```

2.

//tempVec is a variable

```
> for(i in 2:250)
+ tempVec[i-1] <- (sin(yVec[i-1])/(cos(xVec[i])))
```

3.

//tempXX is a variable

```
> for(i in 3:250)
+ tempXX[i-2] <- (xVec[i-2] + 2*(xVec[i-1]) - xVec[i])
```

4.

//temp is a variable

```
> for(i in 1:249)
+ temp <- sum(exp(-xVec[i+1])/xVec[i]+10)
> temp
[1] 10
```

5.

```
> yVec[yVec>600]
```

```
[1] 709 871 621 930 948 783 878 671 860 768 698 974 855 813 776 721 917 985 705 884 840
[22] 687 957 955 786 938 930 641 615 988 881 881 997 823 791 643 779 693 845 815 752 766
[43] 635 993 919 686 635 613 660 800 743 965 743 615 615 803 948 760 604 800 772 863 902
[64] 689 881 941 924 693 835 632 872 876 850 961 681 791 947 915 712 665 921 798 866 828
[85] 942 841 645 681 827 884 890 970 632 717 846 952 609 824 695 675 777 813 792 783 611
[106] 853 738 668 791
```

6.

```
> ctr <- 1
> for(i in 1:250){
+   if(yVec[i] > 600){
+     xx[ctr] <- i
+     ctr <- ctr + 1
+   }
+ }
> xx
```

```
[1] 1 2 5 6 8 10 11 13 16 18 27 28 32 33 34 36 42 43 45 48 50 55
[23] 58 59 60 61 63 66 67 68 72 79 80 86 88 94 95 96 97 101 102 105 107 109
[45] 111 114 118 119 120 123 125 127 131 132 134 136 137 138 139 142 143 150 151 154 157 158
[67] 159 161 163 164 167 168 172 173 174 175 176 178 180 181 182 183 187 189 190 203 204 205
[89] 206 211 213 214 219 220 224 226 227 230 232 237 238 239 241 243 245 246 247 249 250
```

7.

```
> xVec[yVec>600]
```

```
[1] 708 437 513 44 646 107 390 640 676 364 577 257 408 437 618 627 836 278 55 458 803
[22] 358 525 511 266 578 197 38 724 61 995 652 956 19 680 760 48 294 69 505 964 24
[43] 10 840 878 113 789 444 986 537 515 263 359 189 457 274 543 324 176 160 260 407 216
[64] 977 148 293 660 137 852 743 353 371 768 339 203 478 49 880 996 894 357 900 972 467
[85] 324 517 446 533 190 501 124 14 5 863 399 256 678 188 258 110 957 285 34 631 179
[106] 545 123 238 178
```

8.

```
//meanX is a variable
```

```
> meanX <- mean(xVec)
> temp2 <- (sqrt(x-meanX))
```

9.

```
> maxx <- max(xVec)
> ctr <- 0
> for(i in 1:250){
+   if(yVec[i] >= maxx - 200){
+     if(yVec[i] <= maxx + 200){
+       ctr <- ctr + 1
+     }
+   }
+   if(yVec[i] <= maxx + 200){
+     if(yVec[i] >= maxx - 200){
+       ctr <- ctr + 1
+     }
+   }
+ }
> ctr
[1] 114
```

10.

```
> ctr <- 0
> for(i in 1:250)
+ if(xVec[i] %% 2 == 0)
+ ctr <- ctr + 1
> ctr
[1] 124
```

11.

```
> ord <- order(yVec)
> xVec <- xVec[ord]
```

```
12. yVec[seq(1, 250, 3)]
```

13.

```
> hist(NAT, 7, 6)
```

14.

```
> mean(NAT)
[1] 74.76
```

```
> median(NAT)
[1] 76
```

Mode = 82

15.
> boxplot(NAT)