# Parshat Nasso 

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## The parsha covers:

- Census to find 8580 Levite men, 30-50 years old to transport the tabernacle and its contents
- Law of how to deal with a wife suspected of having an affair with a man other than her husband; barbaric, ineffective lie detector test
- Law of Nazir: no wine, no hair cuts, no shaving, no contact with a dead body, and sin offering at the planned end of the vows
- How כֹּהֲנִים are to bless the Israelites


## The parsha covers:

- Inauguration of the altar
- Leader of each of 12 tribes brings gifts
- one tribe per day
- all tribes' gifts are exactly the same
- 12 nearly identical descriptions of one tribe's gifts
- identical except for the name of the leader, the name of the tribe, and the name of the day


## An Important Concept in Computing

When a programmer finds $n$ program fragments, $f_{1}, f_{2}, \ldots, f_{n}$, that are identical except for a few, $m$, specific, easily characterized differences, ...

The programmer makes a procedure, $p$, whose definition, $f$, is the identical parts of the fragments, and each easily parameterized difference is made to be a parameter, $x_{1}, x_{2}, \ldots$, $x_{m}$.

## Invoke the Procedure in Place of

 the FragmentsEach of the $n$ nearly identical fragments can be replaced by an invocation of $p$ with the $n$ parameters, $x_{1}, x_{2}, \ldots, x_{m}$, set to the specific values that make the fragment unique.

## Numbers 7:12-83 is an Example

A different color is used to show all identical instances of any fragment, ... and red is used for parameters.

## And he that presented his offering the first day was Nahshon the son of Amminadab, of the tribe of Judah; and was

his offering one silver dish, the weight thereof was a hundred and thirty shekels, one silver basin of seventy shekels, after the shekel of the sanctuary; both of them full of fine flour mingled with oil for a meal-offering; one golden pan of ten shekels, full of incense; one young bullock, one ram, one he-lamb of the first year, for a burnt-offering; one male of the goats for a sin-offering; and for the sacrifice of peace-offerings, two oxen, five rams, five he-goats, five he-lambs of the first year. This was the offering of Nahshon the son of Amminadab.

On the second day Nethanel the son of Zuar, prince of Issachar, did offer: he presented for
his offering one silver dish, the weight thereof was a hundred and thirty shekels, one silver basin of seventy shekels, after the shekel of the sanctuary; both of them full of fine flour mingled with oil for a meal-offering; one golden pan of ten shekels, full of incense; one young bullock, one ram, one he-lamb of the first year, for a burnt-offering; one male of the goats for a sin-offering; and for the sacrifice of peace-offerings, two oxen, five rams, five he-goats, five he-lambs of the first year. This was the offering of Nethanel the son of Zuar.

## On the third day Eliab the son of Helon, prince of the children of Zebulun: was

his offering one silver dish, the weight thereof was a hundred and thirty shekels, one silver basin of seventy shekels, after the shekel of the sanctuary; both of them full of fine flour mingled with oil for a meal-offering; one golden pan of ten shekels, full of incense; one young bullock, one ram, one he-lamb of the first year, for a burnt-offering; one male of the goats for a sin-offering; and for the sacrifice of peace-offerings, two oxen, five rams, five he-goats, five he-lambs of the first year. This was the offering of Eliab the son of Helon.

## On the twelfth day Ahira the son of Enan, prince of the children of Naphtali: was

his offering one silver dish, the weight thereof was a hundred and thirty shekels, one silver basin of seventy shekels, after the shekel of the sanctuary; both of them full of fine flour mingled with oil for a meal-offering; one golden pan of ten shekels, full of incense; one young bullock, one ram, one he-lamb of the first year, for a burnt-offering; one male of the goats for a sin-offering; and for the sacrifice of peace-offerings, two oxen, five rams, five he-goats, five he-lambs of the first year. This was the offering of Ahira the son of Enan.

Numbers_7:12-83 =
\{procedure offering( $p$ : prince): \{"his offering one silver dish, the weight thereof was a hundred and thirty shekels, one silver basin of seventy shekels, after the shekel of the sanctuary; both of them full of fine flour mingled with oil for a meal-offering; one golden pan of ten shekels, full of incense; one young bullock, one ram, one he-lamb of the first year, for a burnt-offering; one male of the goats for a sin-offering; and for the sacrifice of peace-offerings, two oxen, five rams, five he-goats, five he-lambs of the first year. This was the offering of $p . "\}$
procedure standardHeading(d:ordinalDay, $p:$ prince, $t:$ tribe): $\{$ "On the $d$ day $p$, prince of the children of $t$ : was" $\}$ :
 was $p$, of the tribe of Judah; and was" offering ( $p$ );
$p=" N e t h a n e l$ the son of Zuar"; "On the second day $p$, prince of Issachar, did offer: he presented for" offering ( $p$ );

$p=" E l i z u r$ the son of Shedeur"; standardHeading ("fourth", $p$,"Reuben") offering ( $p$ );
$p=" S h e l u m i e l ~ t h e ~ s o n ~ o f ~ Z u r i s h a d d a i " ; ~ s t a n d a r d H e a d i n g ~(" f i f t h ", ~ p, " S i m e o n ") ~ o f f e r i n g ~(~ p) ; ~$
$p=$ "Eliasaph the son of Deuel"; standardHeading ("sixth", $p$, "Gad") offering ( $p$ );
$p=$ "Elishama the son of Ammihud"; standardHeading ("seventh", $p$,"Ephraim") offering ( $p$ );
$p="$ Gamaliel the son of Pedahzur"; standardHeading ("eighth", $p$,"Manasseh") offering ( $p$ );
$p=" A b i d a n$ the son of Gideoni"; standardHeading ("ninth", $p$, "Benjamin") offering ( $p$ );
$p=" A h i e z e r ~ t h e ~ s o n ~ o f ~ A m m i s h a d d a i " ; ~ s t a n d a r d H e a d i n g ~(" t e n t h ", ~ p, " D a n ") ~ o f f e r i n g ~(~ p) ~ ; ~$

$p=" A h i r a ~ t h e ~ s o n ~ o f ~ E n a n " ; ~ s t a n d a r d H e a d i n g ~(" t w e l f t h ", ~ p, " N a p h t a l i ") ~ o f f e r i n g ~(~ p) ; ~\} ~$

## Optimizing Preparation for Torah Reading

While one would not show these procedures in a Torah scroll, they do suggest a way to practice the reading of the full parsha with the smallest number of repetitions: Practice once each:

- procedure definition
- parameter
- first day heading
- second day heading


## Avoiding Over Practicing

To make sure that you practice each word that you will say the same number of times: In each round, say once, each:

- procedure definition
- parameter
- first day heading
- second day heading


## Text vs Live Readings

text to read at least once number of times it is said during a live reading
definition of offering ..... 12
definition of standardHeading ..... 10
each $p$ parameter ..... 24
each $d$ or $t$ parameter ..... 10
first day's heading ..... 1
second day's heading ..... 1

## The part I read:

The part about the events of the inauguration leads into the part I read which
-gives the totals and
-explains how Moses will hear God's voice as coming from between the כְּרוּבִים (cherubs)

## Another Important Concept in Computing

The part is a good lesson in an important concept in computing:

- analog

VS

- digital numbers


## Analog

Analog

- measures
- approximate
- tolerances
- never the same when measure again e.g., distances, areas, volumes, weights, time (both an instant (10:31:32am) and a duration (2 hours 31 minutes 15 seconds))


## Digital

Digital

- counts
- exact
- exact
- repeatable
e.g., number of people in a tribe, number of tribes, number of eggs in a package


## Both Kinds of Numbers in Parsha

In the summary of the gifts, there are both kinds of numbers:

- analog
and
- digital


## Digital Numbers

Digital numbers are all divisible by 12 , the digital number of tribes:

- Dedication offerings:
- 12 silver dishes
- 12 silver basins
- 12 golden pans


## Digital Numbers, Cont'd

Digital numbers are all divisible by 12 , the digital number of tribes, cont'd:

- Burnt offerings:
-12 bullocks
- 12 he-lambs, each w/meal offering
- Sin offerings:
-12 he-goats


## Digital Numbers, cont'd

Digital numbers are all divisible by 12 , the digital number of tribes, cont'd:

- Peace offerings:
-24 (12 X 2) bullocks
$-60(12 \times 5)$ he-lambs
$-60(12 \times 5)$ he-goats


## Analog Numbers

Analog numbers are all weights (in sheqels) and happen NOT to be divisible by 12 :

- 130 sheqels per silver dish
- 70 sheqels silver basin

200 sheqels per silver dish + basin

- 10 sheqels per golden pan

By chance, nothing analog is divisible by 12

## Digital X Analog

Note that here, a "digital X analog" is digital:

- 2400 ( $12 \times 200$ ) sheqels total of silver vessels
- 120 ( $12 \times 10$ ) sheqels total of golden pans They probably calculate the total weight by multiplying the weight of one by 12 and not by measuring the whole pile.


## Conclusion

So, again, ... we see that ...

God is a programmer and is aware of computer science concepts!

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