

## Werk

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- 9)  $\omega_0 = 0, \omega_1 = 2, \omega_{2n} = 0$  for  $n \geq 1$  and  $\omega_{2n+1} > 0$  for  $n \geq 1$ ;  
 10)  $\omega_0 = 0, \omega_1 = 2, \omega_2 = 2, \omega_{2n} = 0$  for  $n > 1$  and  $\omega_{2n+1} > 0$  for  $n \geq 1$ .

**Proof.** First we prove that sequences 1)–10) are the only possible. Let us recall that it is  $\omega_1 > 0$  in any algebra because of existence of trivial unary operation. If  $\omega_0 = 0, \omega_1 = 1$ , then sequences 2), 3), 4), 5) are the only possible, which follows from Theorem 1, Corollary 1 and Theorem 2. If  $\omega_0 = 0, \omega_1 = 2$  then sequences 6)–10) are the only possible, which follows from Lemma 1, Proposition 3 and Lemma 2 and from the observation, that if  $\omega_2 = 1$ , then by Proposition 3  $\omega_m \geq 1$  for  $n \geq 2$ .

Sequence 1) has a realisation by Proposition 1, sequences 2), 3), 4), 5) by Theorem 1, Corollary 1 and Theorem 2. Sequence 6) and sequences 7), 8), 9), 10) have realisations by Theorem of (1).

For several sequences we have got representations in such sense that we can show equational classes of algebras realizing given sequences. It is illustrated in the following table:

sequence	representation
1, 1, 1, 1, ...	if $x \cdot x = x$ , semilattice with 0 or 1 if $x \cdot x = c, c \cdot x = x$ , at least two-element Boolean group
0, 1, 0, 0, ...	trivial algebra
0, 1, 1, 1, ...	at least two-element semilattice
0, 1, 0, 1, 0, 1, 0, ...	idempotent reduct of at least two-element Boolean group
0, 1, 2, 0, 0, ...	diagonal semigroup
0, 2, 0, 0, ...	algebra $(X, f(x))$ , where $f(f(x)) = f(x)$ or $x$ .

#### References

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