PDF Compacted Syntax Matrix

Shows examples of valid PDF fragments (token/delimiter pair sequences) where whitespace is not required, according to ISO 32000-2:2020. Several sequences can only occur within arrays due to other PDF syntactic rules and limitations (e.g., all dictionary keys to be name objects and, in PDF 2.0, all keys must be direct objects). It is unclear how many sequences are artificial (i.e. never required by the PDF specification).

Curly braces { and } are <u>not</u> included in the matrix as they are a special case and only valid in PDF Type 4 PostScript function streams, when other tokens are also invalid (e.g. indirect references). This was a correction that was made in ISO 32000-2:2020.

1st PDF object/token	2nd PDF object/token										
	A Array	*B* Boolean	*C* Comment	*D* Dictionary	*E* Hex String	*F* Indirect Ref.	*G* Integer	*H* Literal String	*I* Name	*J* Null	*K* Real
1. Array	…][… [[… []	…]**true** [**false**	…]%xx [%xx	…]<<… …]>> [<<…	…]<ab>… [<ab>…	…]**1 0 R** [**1 0 R**…	…]0 …]+1 …]-1	…](hi)… [(hi)…	…]/Type [/Type…	…]**null** [**null**…	…]0. …].0 …]+.1 …]-.1
2. Boolean	**true**[**false**]	W	**true**%xx	**true**<<… **false**>>	**true**<ab>	W	W	**true**(hi)	**true**/Type	W	W
3. Comment	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
4. Dictionary	…>>[… …>>]…	…>>**true**	<<%xx >>%xx	…>><<… …>>>> <<>>	…>><ab>…	…>>**1 0 R**	…>>0 …>>+1 …>>-1	>>(hi)…	…>>/Type <</Type	…>>**null**	…>>0. …>>.0 …>>+.1 …>>-.1
5. Hex String	<ab>[… <ab>]	<ab>**true**	<%xx …>%xx	<ab><<… <ab>>>	<ab><cd>	<ab>**1 0 R**	<ab>0 <ab>+1 <ab>-1	<ab>(hi)	<ab>/Type	<ab>**null**	<ab>0. <ab>.0 <ab>+.1 <ab>-.1
6. Indirect Reference	**1 0 R**[… **1 0 R**]	W	**1 0 R**%xx	**1 0 R**<<… **1 0 R**>>	**1 0 R**<ab>	W	W	**1 0 R**(hi)	**1 0 R**/Type	W	W
7. Integer	1[… 1]	W	1%xx	1<<… 1>>	12<ab>	W	W	12(hi)	12/Type	W	W
8. Literal String	…)[… …)]	…)**true**	…)%xx	…)<<…	…)<ab>	…)**1 0 R**	…)0 …)+1 …)-1	…)(…	…)/Type	…)**null**	…)0. …).0 …)+.1 …)-.1
9. Name	/Type[… /Type]	W	/Type%xx	/Type<<… /Type>>	/Type<ab>	W	W	/Type(…	/Type/Val	W	W
10. Null	**null**[… **null**]	W	**null**%xx	**null**<<… **null**>>	**null**<ab>	W	W	**null**(hi)	**null**/Type	W	W
11. Real	.0[… 0.[… .0] 0.]	W	.0%xx 0.%xx	.0<<… 0.<<… .0>> 0.>>	.0<ab> 0.<ab>	W	W	.0(hi) 0.(hi)	.0/Type 0./Type	W	W

W   whitespace required between 1st and 2nd PDF object/token

n/a   Not Allowed (syntactically meaningless combination)

bold   reserved word / keyword (i.e. one of: **true**, **false**, **null**, **R**)

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