$$f(n,2,z)= \text{ where } f(n,y,z)=\begin{cases}\sum_{k=0}^{\lfloor \frac{\log n}{\log y}\rfloor} \binom{z}{k}\cdot f(n\cdot y^{-k}, y+1, z) & \text{if } n\geq y\\ 1 & \text{if } n<y\end{cases}$$

$$f(n,y,z)=\sum_{k=0}(-1)^k\binom{z}{k}\cdot f\left(\frac{n}{(y-1)^k}, y-1, z-k\right)$$

$$\nabla f(n,y+1,z)=\sum_{k=0}^{y^k|n}(-1)^k\binom{z}{k}\cdot\nabla f\left(\frac{n}{y^k}, y, z-k\right)$$

$$\nabla f(n,2,z)=\prod_{p^a|n}\frac{z^{(a)}}{a!}$$

$$[\zeta(0)^z]_n=$$

$$1+\sum_{a=2}^{n}\sum_{j=1}^{\lfloor\frac{\log n}{\log a}\rfloor}\binom{z}{j}\left(1+\sum_{b=a+1}^{\lfloor\frac{n}{a^j}\rfloor}\sum_{k=1}^{\lfloor\frac{\log n-j\log a}{\log b}\rfloor}\binom{z-j}{k}\cdot\left(1+\sum_{c=b+1}^{\lfloor\frac{n}{a^j b^k}\rfloor}\sum_{l=1}^{\lfloor\frac{\log n-j\log a-k\log b}{\log c}\rfloor}\binom{z-j-k}{l}\left(1+\sum_{d=c+1}^{\lfloor\frac{n}{a^j b^k c^l}\rfloor}\sum_{m=1}^{\lfloor\frac{\log n-j\log a-k\log b-l\log c}{\log d}\rfloor}\binom{z-j-k-l}{m}(1+\ldots)\right)\right)\right)$$

$$\boxed{D_z(n,y)=1+\sum_{j=y+1}^{n}\sum_{k=1}^{\lfloor\frac{\log n}{\log j}\rfloor}\binom{z}{k}D_{z-k}\left(\frac{n}{j^k},j\right)}$$