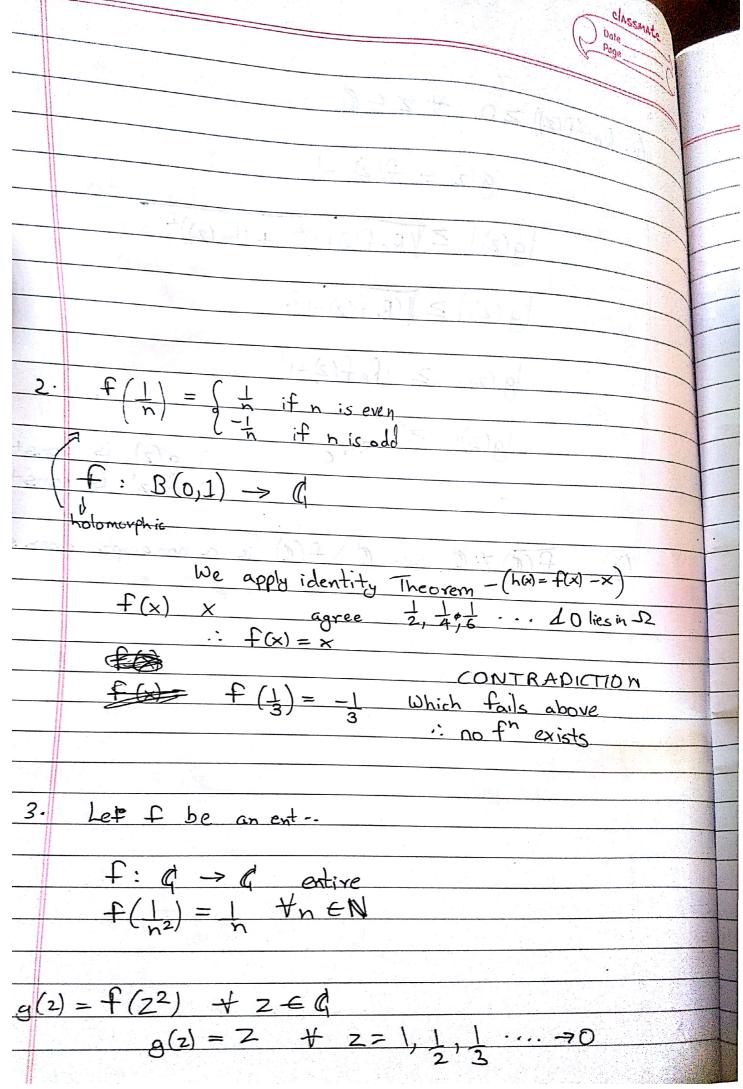
classmate (ii) Re (f(z)) > 0 + z ∈ ( g(z) = f(z) + 1|g(z)| = \( \text{Re f(z)+1} \)^2 + (\lm(z))^2 (2) ≥ ((Ref(2)+1)2  $|g(2)| \geq |Ref(2)+1|$  $|g(2)| \geq 1$  $\therefore$  g(z) is const  $\therefore$  f(z) is const f(a) ≠ a, i.e. a \f(a) is a nonempty open set





| By identity Theorem $g(z) = z + z \in G$  |  |
|---|--|
| $\therefore f(z^2) = z + z \in \mathbb{Q}$  |  |
| $2z f'(z^2) = 1 + z \in G$  | _  |
| $P_{ot}  z = 0  (9800)  3$  |  |
| 0=1 Contradiction   |  |
| N GN)(D)  |  |
| 4. $f(z) = f(0) + 2f'(0) + 2^{2}f'(0) + 2^{N}f^{(N)}(0)$<br>$+ 2^{N+1} (1 (1-t)^{N} f^{(N+1)} (tz) dt$                |  |
| (M+1)! Jo   |  |
| (a) $ e^{2} - \frac{8}{2} \frac{z^{n}}{n!}  \leq \frac{ z ^{N+1}}{(N+1)!}$ , $ e^{(z)}  \leq 0$                       |  |
| $\frac{ z^{N+1} ^{(1-t)^N} f^{N+(2t2)} dt}{(N+1)!} \leq \frac{ z ^{N+1}}{(N+1)!} \left(\frac{f_0}{f_0} = e^z\right)}$ |  |
| $(=) \int_{0}^{\infty} (1-t)^{N} f^{N+1} (tz) dt \leq 1$  |  |
| $f^{N+}(t_2) = f^{N+}(t_2) dt$ $(t_2) = f^{N+}(t_2) dt$   | 12/  |
| $(\leq 6) \int_{0}^{1} e^{zt} dt \leq \int_{0}^{1} e^{tz} dt = \int_{0}^{1} e^{tRe(z)} dz$                            | The second secon |
| (ause Re(2) 4   | Ø  |
| ## H.P.)  |  |

