'no

First Obstructions:

$$\int deg (g) = (-1)^{K+1}$$

$$\Lambda g = 1 + (-1)^{K} (-1)^{K+1}$$

$$= 1 + (-1)^{2K+1}$$

Thus be any
$$g_{she} G$$

Agh = 1 + C-15K C-1)^{2K+2}
= 1 + C-1)^K.
Thus, if K is even j
Agh = 10 s and so
G = Z/Z
If [G172, GDSK freely, then
K is odd.

r

So
$$G_1 \cup H_2(\tilde{X}) = H_2(S^{n-1})$$
 is
frivial.

•
$$O \rightarrow \mathbb{Z} \rightarrow C_{n-1} (\mathbb{X}) \rightarrow \cdots \rightarrow C_{0} (\mathbb{X}) \rightarrow \mathbb{Z} \rightarrow C_{n-1} (\mathbb{X}) \rightarrow \mathbb{Z} \rightarrow \mathbb{Z}$$

•

6

161200 5 Ma ZEGI-module.

 $H^{\mathsf{r}} G (G, \mathbb{A}) = E \times t_{\mathcal{T} \cap \mathcal{T}}^{\mathsf{r}} (\mathcal{T})$

free ZEGI-resolution

- - - - Hom (F, m) = Hom (Form) e HK G, M

OE Z E Hom (, Cm-1 (x), Z)

Corollary: Gra Sur w/ n-1 odd, of Hu (G, Z) is period: c w/ period v.

b) all abelian subgroups are cyclic Crocheman subgroups Z/PXZ/P) $\frac{\alpha}{2F} \rightarrow F_{0} \xrightarrow{\mathcal{ME}} F_{n-1} \xrightarrow{\mathcal{ME}} \cdots \xrightarrow{\mathcal{ME}} F_{n-1} \xrightarrow{\mathcal{ME}} \cdots \xrightarrow{\mathcal{ME}} \cdots$ -> Periodic cohomology b) Follows from a Kunneth Formula For group Cohomology applied to H*(ZIAXZIA,Z) & (a)

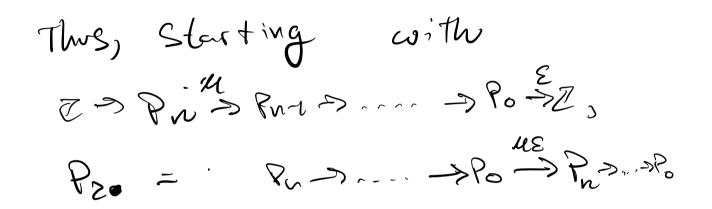
In fict Kesa as well. From now on, we will consider the condition tut Hr(G, Z) is periodic. (remarsh: This can be dore w/ the serve Spectral Scanence: Cartan& Eilerberg) on $S^n \rightarrow X \rightarrow F_1(G_1, I)$.

 \frown

PR is a monoid under
$$\oplus$$
.
Ko (R) = gr (RR)
i.e. we force [PDP'] = [P]t(P].

 $\geq \mathcal{K}(\mathbf{P}) = 0.$ let 60 be a modele S.t. PotCo=Fo is free. Then $P_{i_{\mathcal{N}}} \rightarrow \dots \rightarrow P_{i_{\mathcal{N}}} \rightarrow P_{o}$ $0 \rightarrow 0 > Q_{0} > Q_{0}$ R-> ROQ > FO Contine by induction. To (mi). Since $\chi(P_{o}) = O_{i}$; f Buri, ..., Po ore free, Pu must be study free, Since $\chi(P_{\bullet}) = G^{T}(P^{T}) + O$.

Fact
$$\#Z$$
! $|G|200$
 $\Rightarrow |Fo(Zen3)| < 00$.

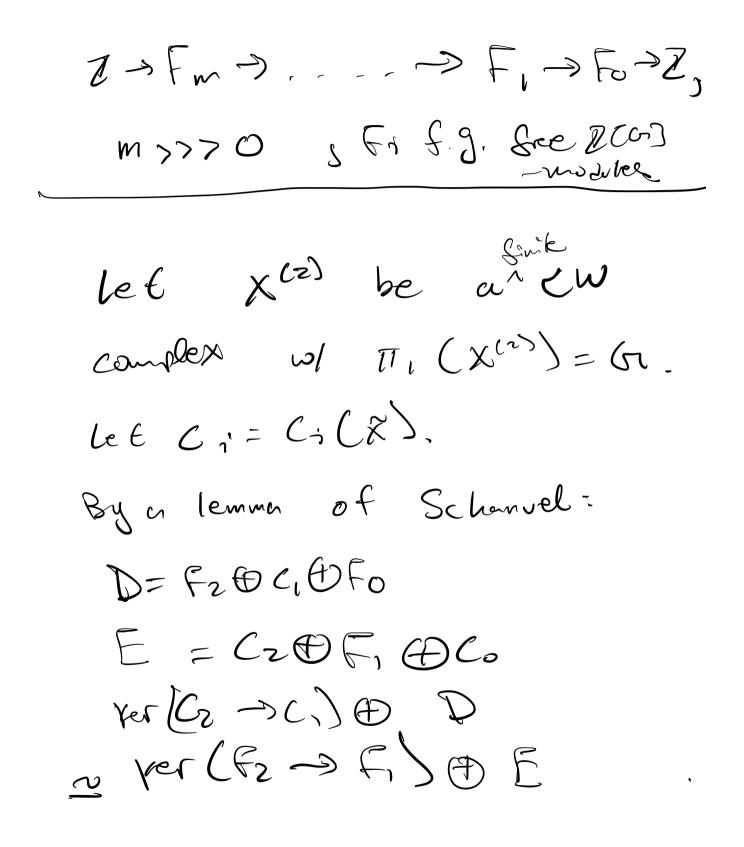


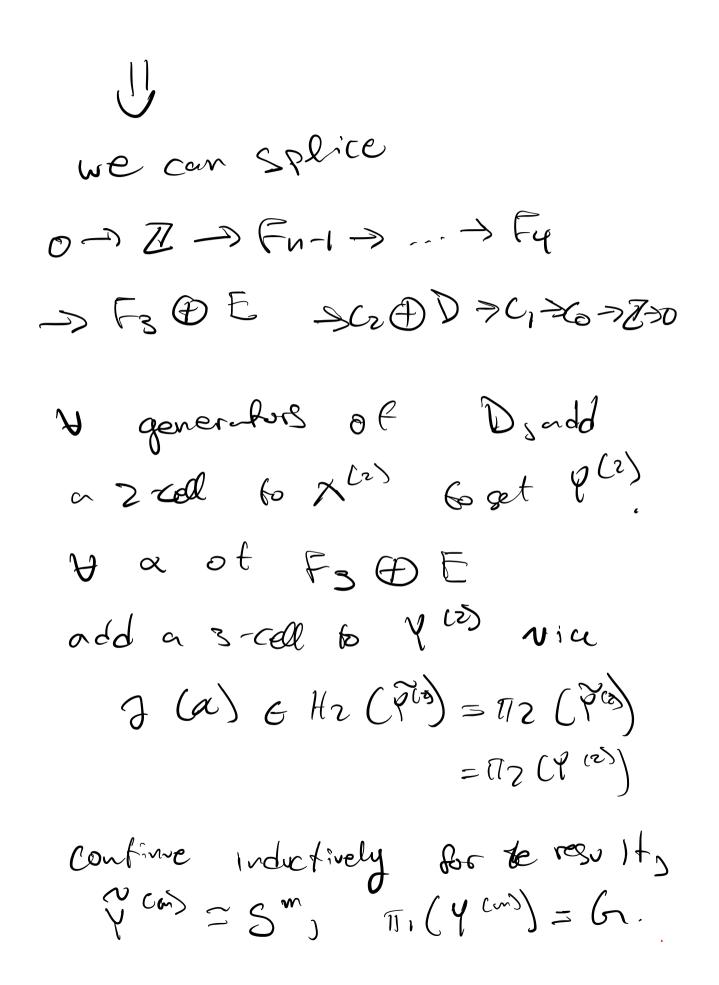
$$\mathcal{X}(P_{z}) = z \cdot \chi(P_{z}) \in \mathcal{K}(\mathcal{D}_{G})$$

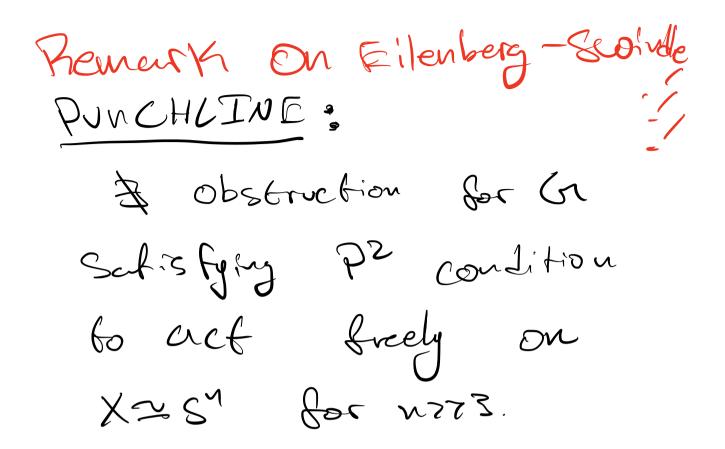
$$3 \text{ KeIN } \omega/$$

 $\chi(P_{R}) = 06 \text{ K}_0(\mathbb{Z}[G]).$

Thus we can find a periodic resolution of G w/



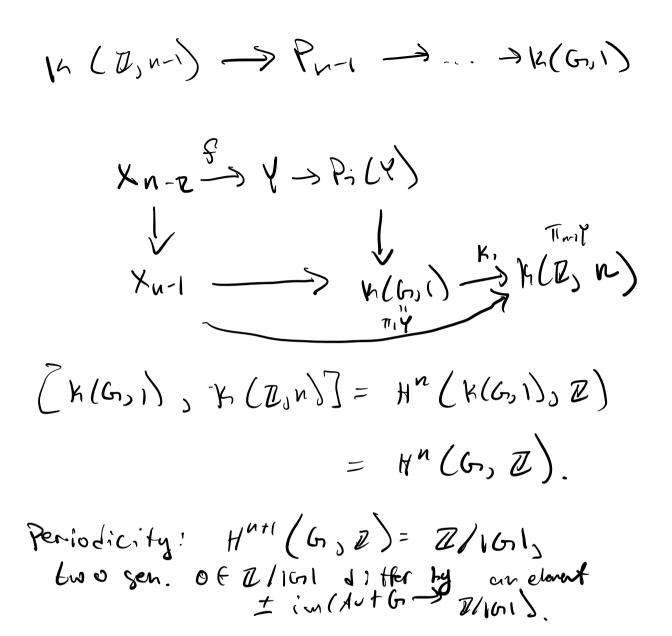




Remarki-Calculating a Gight n has been dore Chard.)

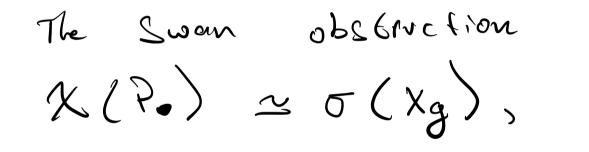
TOPOLOSY (=> Algebra (Wull) (Swan)

Swan actually did a refreed of lot more: a (Gini) - polonized spore is a pointed) (u-i)-complex X, tent is finitely dominated) $P_{n-1} \leftarrow F_i(\mathbb{Z}, n-1)$ $\pi_1(X_1x_0) = G \quad \& \quad \widetilde{X} \cong S^{n-1}.$ 7 K(G,1) > K(G,I)





K-inversion is
$$g$$
.
(our argument from carrier !! s applies to
 $P_n \oplus F_n = P_n^n$, Fus not f.g.



where $\sigma(X_g) \in \tilde{K}_o(\mathbb{Z}[G])$ is the wall - finiteness observation:

