22.09.22	The It (GIXO, K is a field, chark + IGI,
Th. If $\varphi: G \to GL(V)$, $\psi: H \to GL(U)$ are irreducible representations, then $\psi \otimes \psi: G \times H \to GL(V \otimes U)$ is irreducible Proof. Suppose $0 \neq W \subset V \otimes U$, W is $\psi \otimes \psi = \text{invariant. Suppose } V$ if $V \otimes V \otimes U = \text{invariant. Suppose } V \otimes V \otimes U = \text{invariant. Suppose } V \otimes V \otimes U = \text{invariant. Suppose } V \otimes V \otimes U = \text{invariant. Suppose } V \otimes V \otimes U = \text{invariant. Suppose } V \otimes V \otimes U = \text{invariant. Suppose } V \otimes V \otimes U = \text{invariant. Suppose } V \otimes V \otimes U = \text{invariant. Suppose } V \otimes V$	then any irreducible representation J.GGL(V)
P. e Surme 0 + WC 1/00 U Wis 404 - invariant Suppose Vivite-	then any irreducible representation of the regular is isomorphic with some subrepresentation of the regular representation (1,6, KG), which is a direct summand of KG.
Consider the representation 40 Id = (404) i, L, (9)=(9,4) - dinounional	representation (1,6, KG), which is a about solity of V in KG
natural embedding is G > G × H. In this representation.	representation (1,6, KG), wind a a substitute of V in KG (Note: if K=K, then the multiplicity of V in KG
Consider the representation $981d_H = (981) \cdot C_1$, $C_1 \cdot C_2 \cdot C_3 \cdot C_4$, another notward embedding is: $G = G^*H$. Obviously, W is invariant under this representation. It follows that W contains a subspace of form $V \otimes U_0$, $U_0 \in U$. In $G = V \otimes U$ can be written in a form $Z_1 \otimes G_1 + \cdots + Z_m \otimes G_m$, where	equals the dimension of V)
1+ 30116011 000	D. a Construct a nomonospression of
VaeVoV can be written in a form total value of trew the is some basis of U. In particular, Y we with the is a fill of the total of the start of the sound of the start of the start of the start of the sound of the start of the	$f: KG \longrightarrow V$. Put $f(t_0) = V_0 \in V$, $v_0 \neq 0$; for any $a \in G$, $a = t_0 \cdot a$, Put $f(t_0) = V_0 \in V$, $v_0 \neq 0$; for any $v_0 \in G$, $v_0 \in$
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	n o(1) = Vo EV, to =0; for any define f(a),
ifi, fm is some basis of the fit of the to offer, Jectors 6(15), , om (15), s.t. 15=61(15) @ fit + on (25) @ fm, Jectors 6(15), , om (15), s.t. 15=61(15) @ fit + on (25) @ fm, Jectors 6(15), , om (15), s.t. 15=61(15) @ fit + on (25) @ fm,	
and $G_{i}((981dH)U) = (97)^{2}$	f: KG No to to; for any a G, a = 16th. Put f(16) = Vo EV, To to; for any a G, a = 16th. Put f(1a) = Vo EV, To to to to to the f(a); we can define f(a), O = N(a)(16). Put f(a) = V(a)(15); we can define f(a), O = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a) = V(a)(15); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a)(16); we can define f(a), V = N(a)(16). Put f(a)(16); we can define f(a)(16); we can define f(a)(16); we can define f(a)(16); we can def
of the representation ((PaIdH))W > 4.	Yacko, by whether Infis invariant in V, and
by the consequence of	A = N(a)(16) inecrity. By construction, $A = V$ is irreduced to V , as V is irreduced at representations, $V' = Inf$ is invariant in V , as V is irreduced at representations, $V' = Inf$ is invariant in V , as $V = V$ is invariant in V , as $V = V$ is invariant in V , as $V = V$. We have $V = V$ is invariant in V . We have $V = V$ is invariant in V .
isomorphism (of "th.3, p. 16 by Video of "the Confron. 10 = or (w) & (Crf. + + Confron), No = Crf. + + Confron. 11 = or (w) & (Crf. + + Confron), No = Crf. + + Confron.	ille then Imf=V = V = KG/Kert; Kert ow; = bly Masshe's th., = WCKG, No invariant: KG = Kert ow;
	= of Masones
1) 1) 2014 iden = 1 200 - 1	artainly, N=V (us representations)
to broading	Consodifence 1. 13ng Docemen
This evident that Uz invariant under ((H), Cx) LEV, UEV As U is irreducible, Uz = 2000 W, for all xEV, UEV As U is irreducible, Uz = 2000 W, for all xEV, UEV	is fruite-dinentical. 3. There are only finite number of non-isomorphic ? 4. There are only finite number of non-isomorphic ? 5. There are only finite number of non-isomorphic ? 6. There are only finite number of non-isomorphic ? 7. There are only finite number of non-isomorphic ? 8. There are only finite number of non-isomorphic ? 8. There are only finite number of non-isomorphic ? 8. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic ? 9. There are only finite number of non-isomorphic number of non-isomorphic number of number of non-isomorphic number of number
	8. There are only finite minutes of the group G (char K+16)
Prop. If A is a first Abelian group, K is algebraically closed field, charkf[G], then the group of characters of A	First V = $V = V_0$ formed $V = V_0$ formed V_0 $V_0 = V_0$
lied than K+1G1, then the group of characters of the	1. dimV = dim KG = (G1. () = 15000 W:
$A = \{\lambda : A \rightarrow K^{\dagger}\} \cong A$	1. dimV ≤ dam NG = (UT), V ≅ Wi, some Wi 2. KG = ⊕ Wi, Y irred.V, V ≅ Wi, some Wi 2. KG = ⊕ Wj, j: Wj≅
$A = \chi \wedge \chi$	the Transcribic summands: (= (W),).
Proof $A = \langle a_i \rangle \times \times \langle a_r \rangle$, $ a_i = ni$	2. $KG = \bigoplus W_i$, $\forall \text{ treed.} \forall j \in W_j$, $j : W_j \cong W_j$ an collect the isomorphic suppressed only s classes $\Rightarrow KG = U_1 \oplus \bigoplus U_2$, so there are only s classes
$\forall a \in A$: $\alpha = \alpha$, $\alpha \in A$:	=> KG= U1 B. BU3,
$\forall a \in A : \alpha = \alpha, \dots \alpha_e, 0 \le k \le Ni-1 \cdot Ni$ $\forall \lambda \in A, \lambda(a) = \lambda(a_i) \cdot \lambda(a_i) \cdot \lambda(a_i) \in \{\sqrt{1}\} \subseteq K^*$ $\forall \lambda \in A, \lambda(a) = \lambda(a_i) \cdot \lambda(a_i) \cdot \lambda(a_i) \cdot \lambda(a_i) = 1$ $\forall \lambda \in A, \lambda(a) = \lambda(a_i) \cdot \lambda(a_i) \cdot \lambda(a_i) \cdot \lambda(a_i) = 1$	A isomorphism of irreducible representations.
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1
\Rightarrow for $\lambda(a)$ we have $\lambda(a) = 0$ in $\lambda(a) $	
$\Rightarrow \text{ for } \lambda(a) \text{ we have } N_1 N_n = A \text{ provided}$ $A = \langle a_1 \rangle \rangle \langle a_n \rangle, \langle a_n \rangle = \langle a_n \rangle, $	
A = (a, x x (ax), {ais \(\alpha \) (ai) \(\alpha \) (ais \(\alpha \) (ais \) (ais \) (ais \(\alpha \) (ais \) (ais \(\alpha \) (ais \) (ais \(\alpha \) (ais \) (ais \) (ais \(\alpha \) (ais \) (ais \(\alpha \) (ais \) (ais \(\alpha \) (ais \) (ais \) (ais \) (ais \) (ais \(\alpha \) (ais \) (ais \) (ais \(\a	

momorphism of representations for any $a \in G$, a = 16.a, $\mathfrak{I}(a) = \mathfrak{I}(a)(\mathfrak{I}(a))$, we can define $\mathfrak{I}(a)$, By construction, \mathfrak{I} is a homomorphism inf is invariant in V, as V is irredu-V = KG/Kerf; Korf is invariou in KG 5, No invariant: KG = Kerf &W;

number of non-isomorphic ? s of a finite group G (char K+16-1) 1 (V= < p(g) vo, vo + 0>) ed. V, V = Wi, some Wi

couplic suppresends: $U = \bigoplus W_j, j : V_j \cong V$. there are only s classes

luible representations.