Paraphrased content:

1 PE RE GARCÉ S, DAVID PET IT BÓ I VICT OR NAVARRO 1 P er e Ga r cés, Da vi d P et it bó i Vict or Na var r o - Th e m ain obje ct i ve of t hi s l a b sessi on i s t o sim ul at e an d ch ara ct eri z esever a l a coust i ce ffect susi n gMAT LABan dsom e ba si c t ool s of di gi t al si gna l pr ocessi n g. Mor e con cr et el y, t h e obj ect i ve i s t o sim ula t e th e a coust i c r ever ber at i on (i . e. , th e ech oes) i n a r oom . si gn a l. r ever ber a ti on in ar oom . l t o An al ogi ca l ): pr oduce th e ana l ogi cal signa l fr om an input digi ta l si gna l. Th e par t s of ech o gen er at i on an d ech oes can cel l a ti on wi l l be di vi ded int o: sim pl e ech o (just on e ech o) an d m ul ti pl e ech oes (m or eth an on e ech o). T o fi ni sh , th e i dea i s t o play t h e voi ce si gna l a ft er i t ha s been pr ocessed by a l l th e pr ogr am m ed syst em s. - 1. Anal ogi cal to di gi tal In thi s fir st sect i on , our fun cti on m ust con ver t a si gnal fr om an al ogi ca l t o di gi ta l, th i s si gna l wi l l be cr ea t ed by us usin g our m i cr oph on e. T o do th i s, we bui l t t wo di ffer en t fun cti on s, on eth at wi ll r ecor d our voi ce a n dan ot h er on eth at wi l l tran sla t e an d pl a y th e voi c e. 1 2. Si mpl e Ec ho In thi s sect i on, wen eeded t o cr ea t ea fun ct i on tha t wi l l cr eate ech oes th e syst em . Th i s si m pl e fun cti on wi l l be used t o cr ea t ea si m pl e ech o, s th edel a y th at we wi l l in ser t.

[Image]

[Insert Equation]

Paraphrased content:

2 PE RE GARCÉ S, DAVID PET IT BÓ I VICT OR NAVARRO gen era t ed by t h e fun ct i on. 3. M ul ti pl e Ec hoe s In thi s sect i on, we wa n t ed t o gen era t em or e ech oes. Th i s si m pl e equat i on a ll owed us t o do i t, wh er ex(n ) i s our th e syst em . ech oes. 4. Si mpl e Ec ho Equal i ze r In thi s sect i on, wen eed t o cr eat e a fun cti on tha t al l ows us t o r em ove a l l th e ech o gen er at ed befor e (Si mpl e Ec ho). Th i s equa ti on wi l l r em ove a l l th e sim pl e ech o, wh er e y(n ) i s .i m pl em ent ed. 5. M ul ti pl e Ec hoe s Equal iz er In thi sl a st sect i on, we n eeded t o cr ea t ea fun ct i on that r em oved a l l th e ech oes gen era t edin sect i on M ul ti pl e Ec hoe s. Th i s equa ti on wi l l r em ove a l l of th em , wh er e y(n ) i s our voi c e, - Som e of t h e m i sta kes that we ha d wer e dur in gth e cr eat i on of th e di ffer en t fun cti on s, a s we wer e cr eat in gn ew voi ces a n d n ot usin g th e on es ma de befor e.

[Image]

[Insert Equation]

Paraphrased content:

3 PE RE GARCÉ S, DAVID PET IT BÓ I VICT OR NAVARRO Al so we coul d ha ve cr ea t ed bet t ern oi ses wi t h using di ffer en t wor d so i t wi l l be ea si er t o di ffer en ti at e bet ween th e ori ginal an dth e ech o. - We used th ese uni t s in or der t o ma ke th e va ri a bl es: - t in secon ds - fs i n Hz - N (del a y) in secon ds - l earn edh ow t o gen er a t e voi c es a ndr epr esen t th em using th e Ma t la b t ool . Al so, i t wa s im port ant t o kn ow h ow t o cr ea t e ech oes a n dr em ove t h em a ft er. We t hin k tha t pra ct i cin g wi th th i s t ype of t ool s i s im port ant in or der t o do th el earnin g by doi n ga bout th i s subje ct . - 1: Vi deo expl i ca ti u Prà ct i ca 1 ht t ps:/ / dri ve. googl e. c om / fi l e/ d/ 1HNU1E M-UK wh V4DQgn sdZWz yr \_FZp3fWn / vi e w 2: Intr oduct i on t o Mat la b ht t ps:/ /a t en ea .upc. edu/ pl ugin fi l e. ph p/ 3123187/m od\_r e sour ce/ c on t en t/ 3/ Ba ckgr oun d\_St udy\_In tr oduct i on \_t o\_ MAT LAB. pdf

[Image]

[Insert Equation]