SAMPLE EXAM ♯1

Explain here what is a rainbow table, with a simple example provided below. Example of a chain: the row starting at `answered` and ending with `loadstar`. Explain the search algorithm.

	W_0		E_0		W_1		E_1		W_2		E_2		W_3
(0)	answered	$\xrightarrow{h}$	273EFF	$\xrightarrow{r_0}$	hatched	$\xrightarrow{h}$	B5FC2D	$\xrightarrow{r_1}$	gluttony	$\xrightarrow{h}$	CD3864	$\xrightarrow{r_2}$	loadstar
(1)	gaudily	$\xrightarrow{h}$	F1076B	$\xrightarrow{r_0}$	comedy	$\xrightarrow{h}$	5DC716	$\xrightarrow{r_1}$	gaucher	$\xrightarrow{h}$	DD64BE	$\xrightarrow{r_2}$	solstice
(2)	wimpled	$\xrightarrow{h}$	1B103D	$\xrightarrow{r_0}$	resound	$\xrightarrow{h}$	A773F2	$\xrightarrow{r_1}$	shoo	$\xrightarrow{h}$	9388EA	$\xrightarrow{r_2}$	gong
(3)	autocrat	$\xrightarrow{h}$	29AF8D	$\xrightarrow{r_0}$	conduit	$\xrightarrow{h}$	BD88FE	$\xrightarrow{r_1}$	tightest	$\xrightarrow{h}$	A0B479	$\xrightarrow{r_2}$	communal
(4)	scherzo	$\xrightarrow{h}$	444811	$\xrightarrow{r_0}$	weaker	$\xrightarrow{h}$	0B98F9	$\xrightarrow{r_1}$	piking	$\xrightarrow{h}$	C70CFC	$\xrightarrow{r_2}$	pointing
(5)	singed	$\xrightarrow{h}$	0DCB87	$\xrightarrow{r_0}$	hatter	$\xrightarrow{h}$	2FDBED	$\xrightarrow{r_1}$	blip	$\xrightarrow{h}$	DB5955	$\xrightarrow{r_2}$	mansion
(6)	soberly	$\xrightarrow{h}$	80B27A	$\xrightarrow{r_0}$	myna	$\xrightarrow{h}$	224F29	$\xrightarrow{r_1}$	fascist	$\xrightarrow{h}$	3F8B6F	$\xrightarrow{r_2}$	peek
(7)	dopier	$\xrightarrow{h}$	B0571D	$\xrightarrow{r_0}$	below	$\xrightarrow{h}$	E93474	$\xrightarrow{r_1}$	sociable	$\xrightarrow{h}$	02DE68	$\xrightarrow{r_2}$	resolute
(8)	lorry	$\xrightarrow{h}$	8487EB	$\xrightarrow{r_0}$	divert	$\xrightarrow{h}$	4297DB	$\xrightarrow{r_1}$	ostrich	$\xrightarrow{h}$	6119A1	$\xrightarrow{r_2}$	tactic
(9)	aquifer	$\xrightarrow{h}$	8006B7	$\xrightarrow{r_0}$	blanket	$\xrightarrow{h}$	D4F575	$\xrightarrow{r_1}$	allspice	$\xrightarrow{h}$	34C9D7	$\xrightarrow{r_2}$	huckster

Question 1 ♣ In the example table, which operations are necessarily performed to search for `CD3864` (line 0)?

- ☐ r_0(`2EBF49`)
- ☐ r_2(`273EFF`)
- ☒ r_2(`CD3864`)
- ☒ h(`hatched`)
- ☐ h(`gluttony`)
- ☒ r_0(`273EFF`)
- ☒ h(`answered`)
- ☒ r_1(`B5FC2D`)
- ☐ h(`loadstar`)
- ☐ r_1(`CD3864`)
- ☐ r_2(`B5FC2D`)
- ☐ r_1(`3CA6B8`)
- ☐ r_0(`B5FC2D`)
- ☐ h(`CD3864`)
- ☐ h(`cash`)
- ☐ r_0(`CD3864`)
- ☐ r_1(`273EFF`)
- ☐ r_0(`answered`)

Question 2 ♣ In the example table, which operations are necessarily performed to search for `1B103D` (line 2)?

- ☐ h(`wimpled`)
- ☐ r_2(`7AFE37`)
- ☒ r_0(`1B103D`)
- ☒ r_2(`9388EA`)
- ☐ r_0(`9388EA`)
- ☒ h(`shoo`)
- ☐ r_2(`wimpled`)
- ☐ h(`lifespan`)
- ☐ h(`A773F2`)
- ☐ r_0(`A773F2`)
- ☒ h(`resound`)
- ☐ r_2(`A773F2`)
- ☐ r_0(`34AA54`)
- ☒ r_2(`1B103D`)
- ☐ h(`gong`)
- ☒ r_1(`1B103D`)
- ☐ r_1(`9388EA`)
- ☒ r_1(`A773F2`)

Question 3 ♣ In the example table, which operations are necessarily performed to search for `5DC716` (line 1)?

- ☐ r_1(`DD64BE`)
- ☒ r_2(`DD64BE`)
- ☐ h(`talk`)
- ☒ h(`gaudily`)
- ☒ h(`gaucher`)
- ☐ r_1(`gaucher`)
- ☐ r_0(`5DC716`)
- ☒ r_0(`F1076B`)
- ☐ r_1(`A9855C`)
- ☐ r_0(`DD64BE`)
- ☒ r_1(`5DC716`)
- ☐ h(`comedy`)
- ☒ r_2(`5DC716`)
- ☐ h(`commune`)
- ☐ h(`solstice`)
- ☐ r_2(`F1076B`)
- ☐ r_1(`F1076B`)
- ☐ h(`5DC716`)

Question 4 ♣ In the example table, which operations are necessarily performed to search for `044319` (not in the table)?

- ☐ h(`communal`)
- ☐ r_2(`autocrat`)
- ☐ r_0(`29AF8D`)
- ☐ r_1(`A0B479`)
- ☐ h(`tightest`)
- ☐ h(`autocrat`)
- ☐ r_1(`29AF8D`)
- ☐ r_2(`A0B479`)
- ☐ r_1(`BD88FE`)
- ☐ h(`conduit`)
- ☒ r_1(`044319`)
- ☐ r_2(`29AF8D`)
- ☒ r_0(`044319`)
- ☐ r_0(`BD88FE`)
- ☐ h(`A0B479`)
- ☐ r_0(`A0B479`)
- ☒ r_2(`044319`)
- ☐ r_2(`BD88FE`)

SAMPLE EXAM ♯2

Explain here what is a rainbow table, with a simple example provided below. Example of a chain: the row starting at `aerie` and ending with `rage`. Explain the search algorithm.

	W_0		E_0		W_1		E_1		W_2		E_2		W_3
(0)	`aerie`	$\xrightarrow{h}$	531DFF	$\xrightarrow{r_0}$	`brute`	$\xrightarrow{h}$	C5722C	$\xrightarrow{r_1}$	`grazed`	$\xrightarrow{h}$	975E3E	$\xrightarrow{r_2}$	`rage`
(1)	`wastrel`	$\xrightarrow{h}$	301FA8	$\xrightarrow{r_0}$	`bided`	$\xrightarrow{h}$	24BA60	$\xrightarrow{r_1}$	`almost`	$\xrightarrow{h}$	556F7B	$\xrightarrow{r_2}$	`chafe`
(2)	`goodby`	$\xrightarrow{h}$	5F8E62	$\xrightarrow{r_0}$	`stammer`	$\xrightarrow{h}$	19E7CA	$\xrightarrow{r_1}$	`energy`	$\xrightarrow{h}$	B7DABB	$\xrightarrow{r_2}$	`discount`
(3)	`frothier`	$\xrightarrow{h}$	3462C1	$\xrightarrow{r_0}$	`operand`	$\xrightarrow{h}$	B09046	$\xrightarrow{r_1}$	`slot`	$\xrightarrow{h}$	BBDE48	$\xrightarrow{r_2}$	`cardio`
(4)	`treading`	$\xrightarrow{h}$	11FB71	$\xrightarrow{r_0}$	`early`	$\xrightarrow{h}$	65C01A	$\xrightarrow{r_1}$	`adaptive`	$\xrightarrow{h}$	CC0987	$\xrightarrow{r_2}$	`fount`
(5)	`valet`	$\xrightarrow{h}$	8B9BB1	$\xrightarrow{r_0}$	`amenity`	$\xrightarrow{h}$	B5133C	$\xrightarrow{r_1}$	`pacific`	$\xrightarrow{h}$	759EF4	$\xrightarrow{r_2}$	`strafed`
(6)	`speak`	$\xrightarrow{h}$	E5BC96	$\xrightarrow{r_0}$	`effete`	$\xrightarrow{h}$	AC1C83	$\xrightarrow{r_1}$	`reefing`	$\xrightarrow{h}$	D3B58D	$\xrightarrow{r_2}$	`converge`
(7)	`bunted`	$\xrightarrow{h}$	883EC7	$\xrightarrow{r_0}$	`terraced`	$\xrightarrow{h}$	BCCB87	$\xrightarrow{r_1}$	`polyp`	$\xrightarrow{h}$	67E734	$\xrightarrow{r_2}$	`flux`
(8)	`ranched`	$\xrightarrow{h}$	E78289	$\xrightarrow{r_0}$	`perfumed`	$\xrightarrow{h}$	414A3E	$\xrightarrow{r_1}$	`cluster`	$\xrightarrow{h}$	EC247F	$\xrightarrow{r_2}$	`ration`
(9)	`kilning`	$\xrightarrow{h}$	986281	$\xrightarrow{r_0}$	`flashed`	$\xrightarrow{h}$	7358E9	$\xrightarrow{r_1}$	`bated`	$\xrightarrow{h}$	094DF4	$\xrightarrow{r_2}$	`upending`

Question 1 ♣ In the example table, which operations are necessarily performed to search for `24BA60` (line 1)?

- ☒ r_0(`301FA8`)
- ☒ h(`wastrel`)
- ☐ r_2(`301FA8`)
- ☐ h(`bided`)
- ☐ h(`getup`)
- ☐ r_1(`556F7B`)
- ☒ r_1(`24BA60`)
- ☐ r_1(`301FA8`)
- ☐ h(`necklace`)
- ☐ h(`chafe`)
- ☒ r_2(`24BA60`)
- ☐ h(`24BA60`)
- ☒ h(`almost`)
- ☐ r_0(`556F7B`)
- ☒ r_2(`556F7B`)
- ☐ r_0(`24BA60`)
- ☐ r_1(`almost`)
- ☐ r_1(`6BC588`)

Question 2 ♣ In the example table, which operations are necessarily performed to search for `5F8E62` (line 2)?

- ☐ r_1(`B7DABB`)
- ☐ h(`goodby`)
- ☐ r_0(`DAF197`)
- ☐ h(`discount`)
- ☐ h(`kibosh`)
- ☐ r_0(`B7DABB`)
- ☒ h(`energy`)
- ☒ r_2(`B7DABB`)
- ☒ r_2(`5F8E62`)
- ☐ r_2(`goodby`)
- ☐ r_0(`19E7CA`)
- ☒ h(`stammer`)
- ☒ r_1(`5F8E62`)
- ☐ r_2(`19E7CA`)
- ☒ r_1(`19E7CA`)
- ☐ h(`19E7CA`)
- ☒ r_0(`5F8E62`)
- ☐ r_2(`61B856`)

Question 3 ♣ In the example table, which operations are necessarily performed to search for `A1B3BE` (not in the table)?

- ☐ r_1(`3462C1`)
- ☐ h(`BBDE48`)
- ☐ r_2(`BBDE48`)
- ☐ h(`frothier`)
- ☐ r_2(`frothier`)
- ☐ h(`cardio`)
- ☒ r_0(`A1B3BE`)
- ☐ r_0(`B09046`)
- ☐ r_0(`3462C1`)
- ☐ r_1(`BBDE48`)
- ☐ r_2(`B09046`)
- ☐ h(`operand`)
- ☐ r_0(`BBDE48`)
- ☒ r_1(`A1B3BE`)
- ☒ r_2(`A1B3BE`)
- ☐ r_1(`B09046`)
- ☐ r_2(`3462C1`)
- ☐ h(`slot`)

Question 4 ♣ In the example table, which operations are necessarily performed to search for `975E3E` (line 0)?

- ☐ r_1(`9A5858`)
- ☒ r_0(`531DFF`)
- ☐ r_2(`531DFF`)
- ☒ h(`brute`)
- ☒ h(`aerie`)
- ☐ r_0(`CFB72C`)
- ☐ r_2(`C5722C`)
- ☐ h(`975E3E`)
- ☐ h(`debit`)
- ☐ r_0(`aerie`)
- ☐ r_0(`C5722C`)
- ☐ r_0(`975E3E`)
- ☐ h(`grazed`)
- ☒ r_2(`975E3E`)
- ☐ r_1(`975E3E`)
- ☐ r_1(`531DFF`)
- ☐ h(`rage`)
- ☒ r_1(`C5722C`)

SAMPLE EXAM ♯3

Explain here what is a rainbow table, with a simple example provided below. Example of a chain: the row starting at `snore` and ending with `alluvia`. Explain the search algorithm.

	W_0		E_0		W_1		E_1		W_2		E_2		W_3
(0)	snore	$\xrightarrow{h}$	627C55	$\xrightarrow{r_0}$	featured	$\xrightarrow{h}$	877C2E	$\xrightarrow{r_1}$	nobody	$\xrightarrow{h}$	038F2F	$\xrightarrow{r_2}$	alluvia
(1)	cheery	$\xrightarrow{h}$	9732D4	$\xrightarrow{r_0}$	decedent	$\xrightarrow{h}$	3FB531	$\xrightarrow{r_1}$	rookery	$\xrightarrow{h}$	663FB7	$\xrightarrow{r_2}$	grosser
(2)	blank	$\xrightarrow{h}$	9C85D2	$\xrightarrow{r_0}$	petrol	$\xrightarrow{h}$	4613E0	$\xrightarrow{r_1}$	masterly	$\xrightarrow{h}$	37E9C7	$\xrightarrow{r_2}$	ism
(3)	locking	$\xrightarrow{h}$	83335A	$\xrightarrow{r_0}$	wiper	$\xrightarrow{h}$	0C5DB1	$\xrightarrow{r_1}$	stealing	$\xrightarrow{h}$	9706C1	$\xrightarrow{r_2}$	club
(4)	exhaling	$\xrightarrow{h}$	A6D834	$\xrightarrow{r_0}$	cleanest	$\xrightarrow{h}$	BBAEEC	$\xrightarrow{r_1}$	ghostly	$\xrightarrow{h}$	63FFF3	$\xrightarrow{r_2}$	busybody
(5)	solemner	$\xrightarrow{h}$	66F5AE	$\xrightarrow{r_0}$	biggest	$\xrightarrow{h}$	D771B6	$\xrightarrow{r_1}$	pace	$\xrightarrow{h}$	D387E6	$\xrightarrow{r_2}$	onward
(6)	kidney	$\xrightarrow{h}$	6A9401	$\xrightarrow{r_0}$	mutation	$\xrightarrow{h}$	BB9B83	$\xrightarrow{r_1}$	damned	$\xrightarrow{h}$	BA51FF	$\xrightarrow{r_2}$	downwind
(7)	wooziest	$\xrightarrow{h}$	E28114	$\xrightarrow{r_0}$	tonsil	$\xrightarrow{h}$	A3302F	$\xrightarrow{r_1}$	overrun	$\xrightarrow{h}$	B80A1D	$\xrightarrow{r_2}$	consult
(8)	tryst	$\xrightarrow{h}$	175AE6	$\xrightarrow{r_0}$	careened	$\xrightarrow{h}$	017A97	$\xrightarrow{r_1}$	duelling	$\xrightarrow{h}$	536E0F	$\xrightarrow{r_2}$	prettily
(9)	daytime	$\xrightarrow{h}$	3DB331	$\xrightarrow{r_0}$	loony	$\xrightarrow{h}$	82502A	$\xrightarrow{r_1}$	monotony	$\xrightarrow{h}$	0E8C3F	$\xrightarrow{r_2}$	footstep

Question 1 ♣ In the example table, which operations are necessarily performed to search for 9E58FA (not in the table)?

☐ h(stealing)
☐ h(locking)
☒ r_0(9E58FA)
☐ r_2(9706C1)
☐ r_0(9706C1)
☐ r_1(9706C1)
☒ r_1(9E58FA)
☐ r_2(83335A)
☐ r_1(83335A)
☐ r_2(locking)
☐ h(wiper)
☐ r_1(0C5DB1)
☐ r_0(83335A)
☐ r_0(0C5DB1)
☐ r_2(0C5DB1)
☐ h(9706C1)
☒ r_2(9E58FA)
☐ h(club)

Question 2 ♣ In the example table, which operations are necessarily performed to search for 9C85D2 (line 2)?

☐ r_0(4613E0)
☐ h(blank)
☒ r_1(9C85D2)
☒ r_2(9C85D2)
☒ r_1(4613E0)
☐ r_2(blank)
☒ h(petrol)
☐ r_2(4613E0)
☒ r_2(37E9C7)
☐ r_0(89EDDA)
☒ r_0(9C85D2)
☐ h(meowed)
☐ h(ism)
☒ h(masterly)
☐ r_1(37E9C7)
☐ r_2(2C3FEF)
☐ h(4613E0)
☐ r_0(37E9C7)

Question 3 ♣ In the example table, which operations are necessarily performed to search for 038F2F (line 0)?

☒ r_0(627C55)
☐ r_0(E23BB5)
☒ h(featured)
☐ h(nobody)
☐ h(mestizo)
☐ h(038F2F)
☐ r_0(snore)
☐ h(alluvia)
☐ r_2(877C2E)
☒ r_2(038F2F)
☒ r_1(877C2E)
☐ r_1(3F4CD3)
☐ r_1(038F2F)
☐ r_0(038F2F)
☐ r_1(627C55)
☐ r_0(877C2E)
☒ h(snore)
☐ r_2(627C55)

Question 4 ♣ In the example table, which operations are necessarily performed to search for 3FB531 (line 1)?

☒ h(rookery)
☐ h(savager)
☒ h(cheery)
☒ r_2(663FB7)
☐ h(decedent)
☐ r_0(3FB531)
☐ r_1(9732D4)
☒ r_2(3FB531)
☒ r_0(9732D4)
☐ r_1(663FB7)
☐ h(megaton)
☐ r_1(07C8EC)
☐ h(grosser)
☒ r_1(3FB531)
☐ h(3FB531)
☐ r_1(rookery)
☐ r_2(9732D4)
☐ r_0(663FB7)

SAMPLE EXAM ♯4

Explain here what is a rainbow table, with a simple example provided below. Example of a chain: the row starting at `armada` and ending with `shank`. Explain the search algorithm.

	W_0		E_0		W_1		E_1		W_2		E_2		W_3
(0)	armada	$\xrightarrow{h}$	A94DBC	$\xrightarrow{r_0}$	omitted	$\xrightarrow{h}$	29DA18	$\xrightarrow{r_1}$	encoding	$\xrightarrow{h}$	B88014	$\xrightarrow{r_2}$	shank
(1)	branding	$\xrightarrow{h}$	9E6750	$\xrightarrow{r_0}$	fancying	$\xrightarrow{h}$	AF2280	$\xrightarrow{r_1}$	enamor	$\xrightarrow{h}$	F00538	$\xrightarrow{r_2}$	sieve
(2)	gannet	$\xrightarrow{h}$	FD05D9	$\xrightarrow{r_0}$	frigid	$\xrightarrow{h}$	CABC3E	$\xrightarrow{r_1}$	grounded	$\xrightarrow{h}$	52A69A	$\xrightarrow{r_2}$	deplaned
(3)	sizzle	$\xrightarrow{h}$	D0DBC4	$\xrightarrow{r_0}$	reap	$\xrightarrow{h}$	1C185A	$\xrightarrow{r_1}$	commit	$\xrightarrow{h}$	7713F0	$\xrightarrow{r_2}$	dumfound
(4)	vandal	$\xrightarrow{h}$	947634	$\xrightarrow{r_0}$	craze	$\xrightarrow{h}$	17C351	$\xrightarrow{r_1}$	blocking	$\xrightarrow{h}$	5B5D27	$\xrightarrow{r_2}$	scale
(5)	sire	$\xrightarrow{h}$	9D1CD9	$\xrightarrow{r_0}$	lumpish	$\xrightarrow{h}$	F9D102	$\xrightarrow{r_1}$	mestizo	$\xrightarrow{h}$	5E977A	$\xrightarrow{r_2}$	panderer
(6)	gullet	$\xrightarrow{h}$	FC1A4E	$\xrightarrow{r_0}$	bowsprit	$\xrightarrow{h}$	46FE6C	$\xrightarrow{r_1}$	embalmed	$\xrightarrow{h}$	F830DA	$\xrightarrow{r_2}$	grid
(7)	craving	$\xrightarrow{h}$	7F0BC4	$\xrightarrow{r_0}$	forensic	$\xrightarrow{h}$	3B0CBF	$\xrightarrow{r_1}$	wiggled	$\xrightarrow{h}$	81B46B	$\xrightarrow{r_2}$	plunging
(8)	joshing	$\xrightarrow{h}$	20B1A5	$\xrightarrow{r_0}$	killdeer	$\xrightarrow{h}$	0D2C7D	$\xrightarrow{r_1}$	yucking	$\xrightarrow{h}$	6DA879	$\xrightarrow{r_2}$	debonair
(9)	drapery	$\xrightarrow{h}$	332979	$\xrightarrow{r_0}$	litany	$\xrightarrow{h}$	72E504	$\xrightarrow{r_1}$	provably	$\xrightarrow{h}$	E3CAEF	$\xrightarrow{r_2}$	fawn

Question 1 ♣ In the example table, which operations are necessarily performed to search for `AF2280` (line 1)?

- ☐ r_0(`F00538`)
- ☒ h(`branding`)
- ☐ r_1(`F00538`)
- ☐ h(`mongeese`)
- ☐ h(`fancying`)
- ☐ r_2(`9E6750`)
- ☒ r_2(`F00538`)
- ☒ r_1(`AF2280`)
- ☐ r_1(`207C0E`)
- ☐ h(`lark`)
- ☒ r_2(`AF2280`)
- ☐ r_0(`AF2280`)
- ☒ h(`enamor`)
- ☐ r_1(`enamor`)
- ☐ h(`AF2280`)
- ☒ r_0(`9E6750`)
- ☐ r_1(`9E6750`)
- ☐ h(`sieve`)

Question 2 ♣ In the example table, which operations are necessarily performed to search for `B88014` (line 0)?

- ☐ r_0(`B88014`)
- ☒ h(`omitted`)
- ☐ h(`B88014`)
- ☒ h(`armada`)
- ☒ r_1(`29DA18`)
- ☐ r_2(`A94DBC`)
- ☐ r_1(`02243B`)
- ☐ r_1(`A94DBC`)
- ☐ r_0(`4CE3BC`)
- ☒ r_0(`A94DBC`)
- ☐ h(`encoding`)
- ☐ r_2(`29DA18`)
- ☐ h(`shank`)
- ☒ r_2(`B88014`)
- ☐ r_0(`armada`)
- ☐ r_0(`29DA18`)
- ☐ r_1(`B88014`)
- ☐ h(`ringworm`)

Question 3 ♣ In the example table, which operations are necessarily performed to search for `FD05D9` (line 2)?

- ☐ h(`CABC3E`)
- ☐ h(`gannet`)
- ☐ r_2(`31D7B0`)
- ☒ r_2(`52A69A`)
- ☒ r_0(`FD05D9`)
- ☒ r_2(`FD05D9`)
- ☐ h(`retailed`)
- ☐ r_0(`62760E`)
- ☐ r_0(`CABC3E`)
- ☐ r_2(`gannet`)
- ☐ r_0(`52A69A`)
- ☐ h(`deplaned`)
- ☐ r_1(`52A69A`)
- ☐ r_2(`CABC3E`)
- ☒ h(`grounded`)
- ☒ r_1(`FD05D9`)
- ☒ h(`frigid`)
- ☒ r_1(`CABC3E`)

Question 4 ♣ In the example table, which operations are necessarily performed to search for `7A675A` (not in the table)?

- ☐ h(`sizzle`)
- ☐ r_0(`1C185A`)
- ☐ r_1(`D0DBC4`)
- ☐ h(`dumfound`)
- ☐ h(`reap`)
- ☐ h(`7713F0`)
- ☐ r_1(`1C185A`)
- ☐ r_0(`D0DBC4`)
- ☐ r_0(`7713F0`)
- ☒ r_2(`7A675A`)
- ☐ r_2(`7713F0`)
- ☒ r_0(`7A675A`)
- ☐ r_2(`sizzle`)
- ☐ r_2(`D0DBC4`)
- ☐ h(`commit`)
- ☐ r_1(`7713F0`)
- ☒ r_1(`7A675A`)
- ☐ r_2(`1C185A`)

SAMPLE EXAM ♯5

Explain here what is a rainbow table, with a simple example provided below. Example of a chain: the row starting at `hobbling` and ending with `brisked`. Explain the search algorithm.

	W_0		E_0		W_1		E_1		W_2		E_2		W_3
(0)	`hobbling`	$\xrightarrow{h}$	19E847	$\xrightarrow{r_0}$	`tattooed`	$\xrightarrow{h}$	22DD1D	$\xrightarrow{r_1}$	`triter`	$\xrightarrow{h}$	560F0F	$\xrightarrow{r_2}$	`brisked`
(1)	`restart`	$\xrightarrow{h}$	646C2C	$\xrightarrow{r_0}$	`looping`	$\xrightarrow{h}$	C28CC1	$\xrightarrow{r_1}$	`footmen`	$\xrightarrow{h}$	2AB0B5	$\xrightarrow{r_2}$	`digit`
(2)	`unloose`	$\xrightarrow{h}$	FAC74E	$\xrightarrow{r_0}$	`thieving`	$\xrightarrow{h}$	E0E0C6	$\xrightarrow{r_1}$	`lathe`	$\xrightarrow{h}$	62AE0D	$\xrightarrow{r_2}$	`codify`
(3)	`runoff`	$\xrightarrow{h}$	A07261	$\xrightarrow{r_0}$	`raffled`	$\xrightarrow{h}$	C3F97F	$\xrightarrow{r_1}$	`ashy`	$\xrightarrow{h}$	4B782B	$\xrightarrow{r_2}$	`haymow`
(4)	`riverbed`	$\xrightarrow{h}$	95092F	$\xrightarrow{r_0}$	`fracking`	$\xrightarrow{h}$	1A05E6	$\xrightarrow{r_1}$	`woodcut`	$\xrightarrow{h}$	8A88D5	$\xrightarrow{r_2}$	`strobe`
(5)	`balsam`	$\xrightarrow{h}$	9D5948	$\xrightarrow{r_0}$	`womanize`	$\xrightarrow{h}$	14424C	$\xrightarrow{r_1}$	`highland`	$\xrightarrow{h}$	FF4ECD	$\xrightarrow{r_2}$	`creating`
(6)	`heppest`	$\xrightarrow{h}$	E09FE8	$\xrightarrow{r_0}$	`glacial`	$\xrightarrow{h}$	989C5C	$\xrightarrow{r_1}$	`bosh`	$\xrightarrow{h}$	0BB7AD	$\xrightarrow{r_2}$	`purblind`
(7)	`gunned`	$\xrightarrow{h}$	BBE427	$\xrightarrow{r_0}$	`compose`	$\xrightarrow{h}$	FDB58F	$\xrightarrow{r_1}$	`jutting`	$\xrightarrow{h}$	05FE6F	$\xrightarrow{r_2}$	`glimpse`
(8)	`cagy`	$\xrightarrow{h}$	343E13	$\xrightarrow{r_0}$	`ablution`	$\xrightarrow{h}$	D97113	$\xrightarrow{r_1}$	`imputing`	$\xrightarrow{h}$	F33B76	$\xrightarrow{r_2}$	`fighter`
(9)	`bucket`	$\xrightarrow{h}$	6597FB	$\xrightarrow{r_0}$	`ply`	$\xrightarrow{h}$	14A3A1	$\xrightarrow{r_1}$	`hack`	$\xrightarrow{h}$	A3D1FC	$\xrightarrow{r_2}$	`copulae`

Question 1 ♣ In the example table, which operations are necessarily performed to search for `C28CC1` (line 1)?

- ☐ h(`warlord`)
- ☒ h(`footmen`)
- ☐ r_1(`footmen`)
- ☐ h(`geometry`)
- ☒ r_0(`646C2C`)
- ☐ r_0(`C28CC1`)
- ☐ r_1(`646C2C`)
- ☐ h(`digit`)
- ☐ h(`looping`)
- ☐ h(`C28CC1`)
- ☒ h(`restart`)
- ☒ r_1(`C28CC1`)
- ☒ r_2(`2AB0B5`)
- ☐ r_0(`2AB0B5`)
- ☐ r_2(`646C2C`)
- ☐ r_1(`9B3B78`)
- ☒ r_2(`C28CC1`)
- ☐ r_1(`2AB0B5`)

Question 2 ♣ In the example table, which operations are necessarily performed to search for `FAC74E` (line 2)?

- ☐ r_1(`62AE0D`)
- ☒ h(`thieving`)
- ☒ h(`lathe`)
- ☒ r_2(`62AE0D`)
- ☒ r_0(`FAC74E`)
- ☒ r_2(`FAC74E`)
- ☐ r_0(`62AE0D`)
- ☐ h(`codify`)
- ☐ h(`unloose`)
- ☒ r_1(`FAC74E`)
- ☐ r_0(`A3A453`)
- ☐ r_0(`E0E0C6`)
- ☐ h(`E0E0C6`)
- ☐ r_2(`unloose`)
- ☐ r_2(`E0E0C6`)
- ☐ r_2(`2E7D2C`)
- ☒ r_1(`E0E0C6`)
- ☐ h(`cook`)

Question 3 ♣ In the example table, which operations are necessarily performed to search for `C8FAAC` (not in the table)?

- ☐ h(`runoff`)
- ☐ h(`ashy`)
- ☐ r_1(`4B782B`)
- ☐ r_2(`runoff`)
- ☐ r_0(`A07261`)
- ☐ r_0(`4B782B`)
- ☒ r_0(`C8FAAC`)
- ☐ r_2(`C3F97F`)
- ☐ r_0(`C3F97F`)
- ☐ r_2(`A07261`)
- ☐ r_1(`A07261`)
- ☐ r_1(`C3F97F`)
- ☒ r_2(`C8FAAC`)
- ☐ h(`raffled`)
- ☐ r_2(`4B782B`)
- ☐ h(`4B782B`)
- ☒ r_1(`C8FAAC`)
- ☐ h(`haymow`)

Question 4 ♣ In the example table, which operations are necessarily performed to search for `560F0F` (line 0)?

- ☒ r_1(`22DD1D`)
- ☒ h(`hobbling`)
- ☐ h(`560F0F`)
- ☐ r_1(`19E847`)
- ☐ r_0(`9C12BE`)
- ☐ h(`brisked`)
- ☐ r_1(`560F0F`)
- ☐ h(`designed`)
- ☐ r_2(`19E847`)
- ☐ r_0(`22DD1D`)
- ☐ r_0(`hobbling`)
- ☒ r_2(`560F0F`)
- ☐ r_1(`18A113`)
- ☐ r_2(`22DD1D`)
- ☐ h(`triter`)
- ☒ h(`tattooed`)
- ☐ r_0(`560F0F`)
- ☒ r_0(`19E847`)

SAMPLE EXAM ♯6

Explain here what is a rainbow table, with a simple example provided below. Example of a chain: the row starting at `equaled` and ending with `garrote`. Explain the search algorithm.

	W_0		E_0		W_1		E_1		W_2		E_2		W_3
(0)	`equaled`	$\xrightarrow{h}$	517129	$\xrightarrow{r_0}$	`cerebral`	$\xrightarrow{h}$	41E9E6	$\xrightarrow{r_1}$	`loin`	$\xrightarrow{h}$	8ECA6D	$\xrightarrow{r_2}$	`garrote`
(1)	`runnel`	$\xrightarrow{h}$	750818	$\xrightarrow{r_0}$	`moderate`	$\xrightarrow{h}$	E68266	$\xrightarrow{r_1}$	`admen`	$\xrightarrow{h}$	7CB2AC	$\xrightarrow{r_2}$	`balm`
(2)	`reciting`	$\xrightarrow{h}$	BEE1DB	$\xrightarrow{r_0}$	`tasking`	$\xrightarrow{h}$	61E8C8	$\xrightarrow{r_1}$	`thesauri`	$\xrightarrow{h}$	CCC618	$\xrightarrow{r_2}$	`lamming`
(3)	`sackful`	$\xrightarrow{h}$	01B121	$\xrightarrow{r_0}$	`nominee`	$\xrightarrow{h}$	7655AE	$\xrightarrow{r_1}$	`clad`	$\xrightarrow{h}$	FC5D4C	$\xrightarrow{r_2}$	`modish`
(4)	`drachma`	$\xrightarrow{h}$	7A2A7E	$\xrightarrow{r_0}$	`minima`	$\xrightarrow{h}$	61B639	$\xrightarrow{r_1}$	`triply`	$\xrightarrow{h}$	88A924	$\xrightarrow{r_2}$	`wheezier`
(5)	`garment`	$\xrightarrow{h}$	48EA7F	$\xrightarrow{r_0}$	`freshly`	$\xrightarrow{h}$	D74A06	$\xrightarrow{r_1}$	`slide`	$\xrightarrow{h}$	4F3944	$\xrightarrow{r_2}$	`bate`
(6)	`bemuse`	$\xrightarrow{h}$	1F1A5F	$\xrightarrow{r_0}$	`catsup`	$\xrightarrow{h}$	541828	$\xrightarrow{r_1}$	`atonal`	$\xrightarrow{h}$	8D978D	$\xrightarrow{r_2}$	`speedup`
(7)	`despite`	$\xrightarrow{h}$	9BF100	$\xrightarrow{r_0}$	`tacked`	$\xrightarrow{h}$	C79454	$\xrightarrow{r_1}$	`churl`	$\xrightarrow{h}$	F1C197	$\xrightarrow{r_2}$	`epsilon`
(8)	`footsie`	$\xrightarrow{h}$	E43737	$\xrightarrow{r_0}$	`denim`	$\xrightarrow{h}$	782B97	$\xrightarrow{r_1}$	`dapple`	$\xrightarrow{h}$	11AB21	$\xrightarrow{r_2}$	`polished`
(9)	`clucked`	$\xrightarrow{h}$	26F31D	$\xrightarrow{r_0}$	`arisen`	$\xrightarrow{h}$	D2AD51	$\xrightarrow{r_1}$	`tenting`	$\xrightarrow{h}$	9A34D2	$\xrightarrow{r_2}$	`noodling`

Question 1 ♣ In the example table, which operations are necessarily performed to search for `31A2C4` (not in the table)?

☐ h(`FC5D4C`)
☒ r_2(`31A2C4`)
☐ r_1(`7655AE`)
☐ h(`nominee`)
☐ r_0(`01B121`)
☐ r_2(`7655AE`)
☐ r_0(`FC5D4C`)
☐ r_2(`FC5D4C`)
☐ r_2(`sackful`)
☐ h(`clad`)
☐ r_0(`7655AE`)
☒ r_1(`31A2C4`)
☐ h(`sackful`)
☒ r_0(`31A2C4`)
☐ r_1(`01B121`)
☐ r_1(`FC5D4C`)
☐ h(`modish`)
☐ r_2(`01B121`)

Question 2 ♣ In the example table, which operations are necessarily performed to search for `BEE1DB` (line 2)?

☐ r_0(`DBF3D6`)
☒ r_1(`61E8C8`)
☐ r_0(`CCC618`)
☐ h(`reciting`)
☒ r_1(`BEE1DB`)
☒ r_2(`CCC618`)
☐ h(`brattier`)
☐ r_0(`61E8C8`)
☒ h(`thesauri`)
☐ h(`61E8C8`)
☒ h(`tasking`)
☐ h(`lamming`)
☐ r_2(`41AC68`)
☐ r_2(`reciting`)
☐ r_1(`CCC618`)
☒ r_0(`BEE1DB`)
☐ r_2(`61E8C8`)
☒ r_2(`BEE1DB`)

Question 3 ♣ In the example table, which operations are necessarily performed to search for `E68266` (line 1)?

☐ r_0(`7CB2AC`)
☒ r_2(`E68266`)
☐ r_0(`E68266`)
☒ h(`admen`)
☐ h(`mushing`)
☐ r_1(`750818`)
☒ r_0(`750818`)
☐ h(`E68266`)
☐ r_2(`750818`)
☒ h(`runnel`)
☐ h(`balm`)
☐ r_1(`6E946A`)
☒ r_1(`E68266`)
☒ r_2(`7CB2AC`)
☐ h(`moderate`)
☐ r_1(`admen`)
☐ h(`mulching`)
☐ r_1(`7CB2AC`)

Question 4 ♣ In the example table, which operations are necessarily performed to search for `8ECA6D` (line 0)?

☐ r_0(`8ECA6D`)
☐ r_1(`8ECA6D`)
☐ r_0(`equaled`)
☐ r_1(`517129`)
☒ r_0(`517129`)
☐ h(`8ECA6D`)
☐ h(`garrote`)
☒ h(`equaled`)
☐ r_2(`517129`)
☐ h(`sharped`)
☐ r_0(`41E9E6`)
☐ r_2(`41E9E6`)
☒ r_1(`41E9E6`)
☒ r_2(`8ECA6D`)
☐ r_1(`F59619`)
☐ h(`loin`)
☐ r_0(`D78496`)
☒ h(`cerebral`)

SAMPLE EXAM ♯7

Explain here what is a rainbow table, with a simple example provided below. Example of a chain: the row starting at `warrior` and ending with `rickshaw`. Explain the search algorithm.

	W_0		E_0		W_1		E_1		W_2		E_2		W_3
(0)	`warrior`	$\xrightarrow{h}$	9B477B	$\xrightarrow{r_0}$	`segment`	$\xrightarrow{h}$	5E9D3F	$\xrightarrow{r_1}$	`homage`	$\xrightarrow{h}$	6ED1C3	$\xrightarrow{r_2}$	`rickshaw`
(1)	`almanac`	$\xrightarrow{h}$	F4B8C4	$\xrightarrow{r_0}$	`waved`	$\xrightarrow{h}$	01283D	$\xrightarrow{r_1}$	`palpable`	$\xrightarrow{h}$	AA8CB3	$\xrightarrow{r_2}$	`fidget`
(2)	`reddish`	$\xrightarrow{h}$	28BCF9	$\xrightarrow{r_0}$	`husband`	$\xrightarrow{h}$	934BD3	$\xrightarrow{r_1}$	`hemline`	$\xrightarrow{h}$	85D6D4	$\xrightarrow{r_2}$	`coking`
(3)	`ski`	$\xrightarrow{h}$	D1E6A1	$\xrightarrow{r_0}$	`geode`	$\xrightarrow{h}$	2D972A	$\xrightarrow{r_1}$	`decree`	$\xrightarrow{h}$	D6DE21	$\xrightarrow{r_2}$	`barge`
(4)	`buckshot`	$\xrightarrow{h}$	CEC811	$\xrightarrow{r_0}$	`scruff`	$\xrightarrow{h}$	E6686C	$\xrightarrow{r_1}$	`sobbing`	$\xrightarrow{h}$	C5C686	$\xrightarrow{r_2}$	`bigoted`
(5)	`stew`	$\xrightarrow{h}$	DB361A	$\xrightarrow{r_0}$	`sighted`	$\xrightarrow{h}$	223A7D	$\xrightarrow{r_1}$	`fabric`	$\xrightarrow{h}$	CE7E84	$\xrightarrow{r_2}$	`found`
(6)	`wingtip`	$\xrightarrow{h}$	EF502C	$\xrightarrow{r_0}$	`sauna`	$\xrightarrow{h}$	184B00	$\xrightarrow{r_1}$	`hound`	$\xrightarrow{h}$	5BB9B0	$\xrightarrow{r_2}$	`cigar`
(7)	`gangling`	$\xrightarrow{h}$	77AE40	$\xrightarrow{r_0}$	`plainest`	$\xrightarrow{h}$	46F81B	$\xrightarrow{r_1}$	`mystic`	$\xrightarrow{h}$	785B2B	$\xrightarrow{r_2}$	`shirking`
(8)	`canard`	$\xrightarrow{h}$	BC85C2	$\xrightarrow{r_0}$	`bulimia`	$\xrightarrow{h}$	C35397	$\xrightarrow{r_1}$	`nattily`	$\xrightarrow{h}$	72A76B	$\xrightarrow{r_2}$	`indigo`
(9)	`punitive`	$\xrightarrow{h}$	DD0E8A	$\xrightarrow{r_0}$	`flare`	$\xrightarrow{h}$	FFB139	$\xrightarrow{r_1}$	`crafty`	$\xrightarrow{h}$	53ACA0	$\xrightarrow{r_2}$	`greasier`

Question 1 ♣ In the example table, which operations are necessarily performed to search for `E814F2` (not in the table)?

- ☒ r_2(`E814F2`)
- ☐ r_0(`2D972A`)
- ☐ r_1(`D1E6A1`)
- ☐ r_2(`D1E6A1`)
- ☐ r_2(`D6DE21`)
- ☒ r_1(`E814F2`)
- ☐ r_2(`ski`)
- ☐ h(`ski`)
- ☐ r_0(`D6DE21`)
- ☐ h(`geode`)
- ☐ r_1(`D6DE21`)
- ☐ r_0(`D1E6A1`)
- ☒ r_0(`E814F2`)
- ☐ h(`decree`)
- ☐ r_2(`2D972A`)
- ☐ h(`barge`)
- ☐ r_1(`2D972A`)
- ☐ h(`D6DE21`)

Question 2 ♣ In the example table, which operations are necessarily performed to search for `01283D` (line 1)?

- ☒ r_2(`AA8CB3`)
- ☐ r_1(`AA8CB3`)
- ☐ r_0(`AA8CB3`)
- ☒ r_0(`F4B8C4`)
- ☐ h(`fidget`)
- ☐ r_0(`01283D`)
- ☒ h(`almanac`)
- ☒ h(`palpable`)
- ☐ r_1(`palpable`)
- ☐ h(`01283D`)
- ☐ r_1(`8BBC16`)
- ☐ h(`scherzi`)
- ☐ h(`boldest`)
- ☒ r_1(`01283D`)
- ☐ h(`waved`)
- ☐ r_1(`F4B8C4`)
- ☒ r_2(`01283D`)
- ☐ r_2(`F4B8C4`)

Question 3 ♣ In the example table, which operations are necessarily performed to search for `6ED1C3` (line 0)?

- ☐ h(`homage`)
- ☐ r_1(`6ED1C3`)
- ☐ r_1(`892D25`)
- ☒ h(`segment`)
- ☒ h(`warrior`)
- ☐ h(`rickshaw`)
- ☒ r_1(`5E9D3F`)
- ☐ r_2(`9B477B`)
- ☐ h(`6ED1C3`)
- ☐ r_2(`5E9D3F`)
- ☐ r_1(`9B477B`)
- ☐ r_0(`5E9D3F`)
- ☐ r_0(`6ED1C3`)
- ☐ r_0(`3DFC01`)
- ☒ r_0(`9B477B`)
- ☒ r_2(`6ED1C3`)
- ☐ r_0(`warrior`)
- ☐ h(`remedy`)

Question 4 ♣ In the example table, which operations are necessarily performed to search for `28BCF9` (line 2)?

- ☐ h(`coking`)
- ☒ r_2(`28BCF9`)
- ☒ r_1(`28BCF9`)
- ☐ r_2(`934BD3`)
- ☐ h(`discover`)
- ☐ h(`reddish`)
- ☒ r_2(`85D6D4`)
- ☐ h(`934BD3`)
- ☐ r_0(`934BD3`)
- ☐ r_1(`85D6D4`)
- ☐ r_2(`318BE2`)
- ☒ r_1(`934BD3`)
- ☐ r_2(`reddish`)
- ☒ r_0(`28BCF9`)
- ☒ h(`hemline`)
- ☐ r_0(`85D6D4`)
- ☐ r_0(`9BEECA`)
- ☒ h(`husband`)

SAMPLE EXAM ♯8

Explain here what is a rainbow table, with a simple example provided below. Example of a chain: the row starting at `renewing` and ending with `beater`. Explain the search algorithm.

	W_0		E_0		W_1		E_1		W_2		E_2		W_3
(0)	`renewing`	$\xrightarrow{h}$	938CA1	$\xrightarrow{r_0}$	`softly`	$\xrightarrow{h}$	402CEB	$\xrightarrow{r_1}$	`odor`	$\xrightarrow{h}$	7B6D2E	$\xrightarrow{r_2}$	`beater`
(1)	`arrival`	$\xrightarrow{h}$	94A37D	$\xrightarrow{r_0}$	`misjudge`	$\xrightarrow{h}$	8E2F15	$\xrightarrow{r_1}$	`consular`	$\xrightarrow{h}$	09464B	$\xrightarrow{r_2}$	`audio`
(2)	`drummer`	$\xrightarrow{h}$	F9932F	$\xrightarrow{r_0}$	`proven`	$\xrightarrow{h}$	82CAB5	$\xrightarrow{r_1}$	`cheat`	$\xrightarrow{h}$	59F59C	$\xrightarrow{r_2}$	`heap`
(3)	`stowaway`	$\xrightarrow{h}$	519984	$\xrightarrow{r_0}$	`belly`	$\xrightarrow{h}$	999964	$\xrightarrow{r_1}$	`socking`	$\xrightarrow{h}$	956EFF	$\xrightarrow{r_2}$	`fiesta`
(4)	`licit`	$\xrightarrow{h}$	BFE3E2	$\xrightarrow{r_0}$	`try`	$\xrightarrow{h}$	4DFCB4	$\xrightarrow{r_1}$	`audition`	$\xrightarrow{h}$	DF55B7	$\xrightarrow{r_2}$	`shirked`
(5)	`carving`	$\xrightarrow{h}$	1C22A2	$\xrightarrow{r_0}$	`wilfully`	$\xrightarrow{h}$	B2BF8D	$\xrightarrow{r_1}$	`irking`	$\xrightarrow{h}$	8B45E1	$\xrightarrow{r_2}$	`tilled`
(6)	`hum`	$\xrightarrow{h}$	A0074D	$\xrightarrow{r_0}$	`layover`	$\xrightarrow{h}$	BD033E	$\xrightarrow{r_1}$	`why`	$\xrightarrow{h}$	81D41D	$\xrightarrow{r_2}$	`narrator`
(7)	`masseur`	$\xrightarrow{h}$	E0EC51	$\xrightarrow{r_0}$	`gateway`	$\xrightarrow{h}$	4F5B15	$\xrightarrow{r_1}$	`septum`	$\xrightarrow{h}$	0C085C	$\xrightarrow{r_2}$	`devoid`
(8)	`natural`	$\xrightarrow{h}$	528DA0	$\xrightarrow{r_0}$	`tollgate`	$\xrightarrow{h}$	9B4815	$\xrightarrow{r_1}$	`solitude`	$\xrightarrow{h}$	5DB3C5	$\xrightarrow{r_2}$	`liar`
(9)	`lugged`	$\xrightarrow{h}$	08B4A5	$\xrightarrow{r_0}$	`javelin`	$\xrightarrow{h}$	490FAF	$\xrightarrow{r_1}$	`override`	$\xrightarrow{h}$	D8B152	$\xrightarrow{r_2}$	`remedied`

Question 1 ♣ In the example table, which operations are necessarily performed to search for `7B6D2E` (line 0)?

- ☐ h(`odor`)
- ☒ h(`softly`)
- ☐ r_1(`938CA1`)
- ☐ r_1(`7B6D2E`)
- ☐ r_0(`9678A2`)
- ☐ h(`powerful`)
- ☐ h(`beater`)
- ☒ r_0(`938CA1`)
- ☐ r_0(`renewing`)
- ☐ r_0(`7B6D2E`)
- ☐ h(`7B6D2E`)
- ☐ r_1(`DF50E0`)
- ☐ r_0(`402CEB`)
- ☒ r_1(`402CEB`)
- ☐ r_2(`402CEB`)
- ☒ r_2(`7B6D2E`)
- ☒ h(`renewing`)
- ☐ r_2(`938CA1`)

Question 2 ♣ In the example table, which operations are necessarily performed to search for `F9932F` (line 2)?

- ☐ r_2(`drummer`)
- ☒ r_2(`F9932F`)
- ☒ r_0(`F9932F`)
- ☐ h(`82CAB5`)
- ☒ h(`cheat`)
- ☐ r_1(`59F59C`)
- ☐ h(`drummer`)
- ☒ r_1(`82CAB5`)
- ☒ h(`proven`)
- ☐ h(`heap`)
- ☐ r_0(`A315AE`)
- ☐ r_0(`82CAB5`)
- ☐ r_0(`59F59C`)
- ☒ r_2(`59F59C`)
- ☐ r_2(`82CAB5`)
- ☐ h(`mown`)
- ☒ r_1(`F9932F`)
- ☐ r_2(`22268F`)

Question 3 ♣ In the example table, which operations are necessarily performed to search for `F13F08` (not in the table)?

- ☐ r_0(`956EFF`)
- ☒ r_0(`F13F08`)
- ☐ r_0(`519984`)
- ☒ r_1(`F13F08`)
- ☐ r_1(`519984`)
- ☐ r_2(`519984`)
- ☐ r_1(`956EFF`)
- ☐ h(`socking`)
- ☐ h(`956EFF`)
- ☒ r_2(`F13F08`)
- ☐ r_1(`999964`)
- ☐ h(`stowaway`)
- ☐ r_2(`999964`)
- ☐ h(`belly`)
- ☐ h(`fiesta`)
- ☐ r_2(`stowaway`)
- ☐ r_2(`956EFF`)
- ☐ r_0(`999964`)

Question 4 ♣ In the example table, which operations are necessarily performed to search for `8E2F15` (line 1)?

- ☐ r_0(`09464B`)
- ☐ r_1(`consular`)
- ☐ r_1(`92E49C`)
- ☐ h(`8E2F15`)
- ☒ r_1(`8E2F15`)
- ☒ h(`arrival`)
- ☐ h(`disdain`)
- ☒ r_2(`8E2F15`)
- ☒ h(`consular`)
- ☐ h(`misjudge`)
- ☒ r_2(`09464B`)
- ☒ r_0(`94A37D`)
- ☐ r_0(`8E2F15`)
- ☐ h(`audio`)
- ☐ r_1(`94A37D`)
- ☐ r_1(`09464B`)
- ☐ h(`academy`)
- ☐ r_2(`94A37D`)

SAMPLE EXAM ♯9

Explain here what is a rainbow table, with a simple example provided below. Example of a chain: the row starting at `trumpery` and ending with `skirt`. Explain the search algorithm.

	W_0		E_0		W_1		E_1		W_2		E_2		W_3
(0)	trumpery	$\xrightarrow{h}$	034356	$\xrightarrow{r_0}$	imputing	$\xrightarrow{h}$	DCBF8D	$\xrightarrow{r_1}$	whisk	$\xrightarrow{h}$	1656A1	$\xrightarrow{r_2}$	skirt
(1)	zinging	$\xrightarrow{h}$	0C51BC	$\xrightarrow{r_0}$	doorman	$\xrightarrow{h}$	8ACF8C	$\xrightarrow{r_1}$	jibe	$\xrightarrow{h}$	2BB412	$\xrightarrow{r_2}$	health
(2)	flourish	$\xrightarrow{h}$	7F5DAD	$\xrightarrow{r_0}$	cranky	$\xrightarrow{h}$	502AD8	$\xrightarrow{r_1}$	paint	$\xrightarrow{h}$	91D962	$\xrightarrow{r_2}$	sixteen
(3)	insisted	$\xrightarrow{h}$	A34759	$\xrightarrow{r_0}$	women	$\xrightarrow{h}$	ABD6C2	$\xrightarrow{r_1}$	conciser	$\xrightarrow{h}$	EE2057	$\xrightarrow{r_2}$	excised
(4)	coax	$\xrightarrow{h}$	7134AB	$\xrightarrow{r_0}$	ado	$\xrightarrow{h}$	598C31	$\xrightarrow{r_1}$	plectrum	$\xrightarrow{h}$	D61764	$\xrightarrow{r_2}$	presided
(5)	carrying	$\xrightarrow{h}$	EF80BC	$\xrightarrow{r_0}$	minuter	$\xrightarrow{h}$	4F8D0A	$\xrightarrow{r_1}$	yodeller	$\xrightarrow{h}$	C7B288	$\xrightarrow{r_2}$	browse
(6)	snooped	$\xrightarrow{h}$	4B3FA8	$\xrightarrow{r_0}$	billowy	$\xrightarrow{h}$	369017	$\xrightarrow{r_1}$	wigwam	$\xrightarrow{h}$	F5DFDB	$\xrightarrow{r_2}$	tacking
(7)	acerbic	$\xrightarrow{h}$	045413	$\xrightarrow{r_0}$	pen	$\xrightarrow{h}$	88F9F8	$\xrightarrow{r_1}$	rueful	$\xrightarrow{h}$	CB3F4B	$\xrightarrow{r_2}$	carbide
(8)	cascade	$\xrightarrow{h}$	7F1A89	$\xrightarrow{r_0}$	caddying	$\xrightarrow{h}$	8545E0	$\xrightarrow{r_1}$	mallard	$\xrightarrow{h}$	E27340	$\xrightarrow{r_2}$	protozoa
(9)	typified	$\xrightarrow{h}$	421D76	$\xrightarrow{r_0}$	actively	$\xrightarrow{h}$	750012	$\xrightarrow{r_1}$	barrette	$\xrightarrow{h}$	224205	$\xrightarrow{r_2}$	course

Question 1 ♣ In the example table, which operations are necessarily performed to search for `E786CE` (not in the table)?

☐ r_0(`A34759`)
☐ r_2(`ABD6C2`)
☐ r_2(`insisted`)
☐ r_1(`A34759`)
☒ r_0(`E786CE`)
☐ h(`women`)
☐ r_1(`ABD6C2`)
☐ r_0(`ABD6C2`)
☐ r_2(`EE2057`)
☐ r_2(`A34759`)
☐ h(`insisted`)
☐ h(`conciser`)
☒ r_1(`E786CE`)
☐ r_0(`EE2057`)
☐ r_1(`EE2057`)
☐ h(`EE2057`)
☐ h(`excised`)
☒ r_2(`E786CE`)

Question 2 ♣ In the example table, which operations are necessarily performed to search for `8ACF8C` (line 1)?

☐ h(`harpy`)
☐ r_1(`jibe`)
☐ r_1(`EED91D`)
☒ h(`jibe`)
☐ h(`health`)
☒ h(`zinging`)
☐ r_0(`2BB412`)
☐ r_1(`2BB412`)
☒ r_2(`2BB412`)
☐ r_2(`0C51BC`)
☒ r_1(`8ACF8C`)
☐ r_1(`0C51BC`)
☐ h(`beau`)
☐ h(`8ACF8C`)
☐ h(`doorman`)
☒ r_0(`0C51BC`)
☐ r_0(`8ACF8C`)
☒ r_2(`8ACF8C`)

Question 3 ♣ In the example table, which operations are necessarily performed to search for `7F5DAD` (line 2)?

☒ r_1(`502AD8`)
☒ r_2(`91D962`)
☐ h(`502AD8`)
☐ r_0(`502AD8`)
☐ r_2(`6075A1`)
☒ r_1(`7F5DAD`)
☐ r_0(`578898`)
☐ r_2(`502AD8`)
☐ h(`rapt`)
☒ r_0(`7F5DAD`)
☐ h(`sixteen`)
☒ r_2(`7F5DAD`)
☐ r_2(`flourish`)
☒ h(`paint`)
☐ h(`flourish`)
☒ h(`cranky`)
☐ r_0(`91D962`)
☐ r_1(`91D962`)

Question 4 ♣ In the example table, which operations are necessarily performed to search for `1656A1` (line 0)?

☒ r_2(`1656A1`)
☐ h(`skirt`)
☐ r_0(`DCBF8D`)
☒ r_0(`034356`)
☐ r_0(`trumpery`)
☐ r_0(`1656A1`)
☐ h(`1656A1`)
☐ h(`whisk`)
☐ h(`skewer`)
☒ r_1(`DCBF8D`)
☐ r_1(`7E2F5C`)
☐ r_1(`1656A1`)
☐ r_0(`BE2F98`)
☐ r_2(`DCBF8D`)
☐ r_2(`034356`)
☒ h(`imputing`)
☒ h(`trumpery`)
☐ r_1(`034356`)

SAMPLE EXAM ♯10

Explain here what is a rainbow table, with a simple example provided below. Example of a chain: the row starting at `lurched` and ending with `meeker`. Explain the search algorithm.

	W_0		E_0		W_1		E_1		W_2		E_2		W_3
(0)	`lurched`	$\xrightarrow{h}$	`C63279`	$\xrightarrow{r_0}$	`rope`	$\xrightarrow{h}$	`34362F`	$\xrightarrow{r_1}$	`cost`	$\xrightarrow{h}$	`6981DA`	$\xrightarrow{r_2}$	`meeker`
(1)	`topping`	$\xrightarrow{h}$	`4FAC92`	$\xrightarrow{r_0}$	`rumbaing`	$\xrightarrow{h}$	`FA64F1`	$\xrightarrow{r_1}$	`tingled`	$\xrightarrow{h}$	`673779`	$\xrightarrow{r_2}$	`laconic`
(2)	`easing`	$\xrightarrow{h}$	`0C5B05`	$\xrightarrow{r_0}$	`obviated`	$\xrightarrow{h}$	`B60473`	$\xrightarrow{r_1}$	`floodlit`	$\xrightarrow{h}$	`BA9C76`	$\xrightarrow{r_2}$	`croquet`
(3)	`punted`	$\xrightarrow{h}$	`BABFA6`	$\xrightarrow{r_0}$	`leaner`	$\xrightarrow{h}$	`5F245B`	$\xrightarrow{r_1}$	`sancta`	$\xrightarrow{h}$	`F3B243`	$\xrightarrow{r_2}$	`gunsmith`
(4)	`snobbier`	$\xrightarrow{h}$	`92C9DC`	$\xrightarrow{r_0}$	`bison`	$\xrightarrow{h}$	`2AA43F`	$\xrightarrow{r_1}$	`cohered`	$\xrightarrow{h}$	`CAE77E`	$\xrightarrow{r_2}$	`doggiest`
(5)	`gong`	$\xrightarrow{h}$	`A5BF57`	$\xrightarrow{r_0}$	`forcibly`	$\xrightarrow{h}$	`BDB1ED`	$\xrightarrow{r_1}$	`pun`	$\xrightarrow{h}$	`605C57`	$\xrightarrow{r_2}$	`banjoist`
(6)	`foraying`	$\xrightarrow{h}$	`BF4B25`	$\xrightarrow{r_0}$	`fuel`	$\xrightarrow{h}$	`54E7D2`	$\xrightarrow{r_1}$	`heretic`	$\xrightarrow{h}$	`8DC7AF`	$\xrightarrow{r_2}$	`plank`
(7)	`shlocky`	$\xrightarrow{h}$	`CF1117`	$\xrightarrow{r_0}$	`kaput`	$\xrightarrow{h}$	`655504`	$\xrightarrow{r_1}$	`awfuller`	$\xrightarrow{h}$	`6D1093`	$\xrightarrow{r_2}$	`stoned`
(8)	`righting`	$\xrightarrow{h}$	`E88295`	$\xrightarrow{r_0}$	`workload`	$\xrightarrow{h}$	`8DD4C4`	$\xrightarrow{r_1}$	`outsell`	$\xrightarrow{h}$	`593FB2`	$\xrightarrow{r_2}$	`chopping`
(9)	`frilly`	$\xrightarrow{h}$	`EE620D`	$\xrightarrow{r_0}$	`alluring`	$\xrightarrow{h}$	`E168FC`	$\xrightarrow{r_1}$	`overjoy`	$\xrightarrow{h}$	`74F980`	$\xrightarrow{r_2}$	`dolt`

Question 1 ♣ In the example table, which operations are necessarily performed to search for `0C5B05` (line 2)?

- ☐ r_2(`easing`)
- ☒ h(`floodlit`)
- ☒ r_1(`B60473`)
- ☐ r_0(`E6E86F`)
- ☒ r_2(`0C5B05`)
- ☒ r_0(`0C5B05`)
- ☐ r_0(`B60473`)
- ☐ h(`easing`)
- ☒ r_1(`0C5B05`)
- ☐ h(`B60473`)
- ☐ r_1(`BA9C76`)
- ☐ h(`lanker`)
- ☐ r_2(`34AE5F`)
- ☐ h(`croquet`)
- ☒ h(`obviated`)
- ☒ r_2(`BA9C76`)
- ☐ r_0(`BA9C76`)
- ☐ r_2(`B60473`)

Question 2 ♣ In the example table, which operations are necessarily performed to search for `6981DA` (line 0)?

- ☐ r_1(`95A003`)
- ☒ r_2(`6981DA`)
- ☐ r_0(`38E455`)
- ☐ r_0(`34362F`)
- ☐ r_2(`C63279`)
- ☐ h(`6981DA`)
- ☐ h(`cost`)
- ☒ r_1(`34362F`)
- ☐ r_0(`6981DA`)
- ☐ r_1(`6981DA`)
- ☐ r_2(`34362F`)
- ☒ h(`rope`)
- ☐ r_1(`C63279`)
- ☐ r_0(`lurched`)
- ☒ r_0(`C63279`)
- ☒ h(`lurched`)
- ☐ h(`rotation`)
- ☐ h(`meeker`)

Question 3 ♣ In the example table, which operations are necessarily performed to search for `FA64F1` (line 1)?

- ☐ r_1(`AE939D`)
- ☐ r_2(`4FAC92`)
- ☐ h(`toweling`)
- ☐ r_0(`FA64F1`)
- ☒ h(`topping`)
- ☒ r_2(`FA64F1`)
- ☒ r_2(`673779`)
- ☒ h(`tingled`)
- ☒ r_0(`4FAC92`)
- ☐ h(`rumbaing`)
- ☒ r_1(`FA64F1`)
- ☐ h(`bacteria`)
- ☐ r_1(`673779`)
- ☐ r_1(`tingled`)
- ☐ r_0(`673779`)
- ☐ h(`laconic`)
- ☐ r_1(`4FAC92`)
- ☐ h(`FA64F1`)

Question 4 ♣ In the example table, which operations are necessarily performed to search for `A0F70E` (not in the table)?

- ☒ r_0(`A0F70E`)
- ☐ h(`F3B243`)
- ☒ r_2(`A0F70E`)
- ☐ h(`sancta`)
- ☐ r_2(`5F245B`)
- ☐ r_1(`BABFA6`)
- ☐ r_2(`F3B243`)
- ☐ r_1(`5F245B`)
- ☐ r_0(`BABFA6`)
- ☐ h(`punted`)
- ☐ r_2(`punted`)
- ☐ r_1(`F3B243`)
- ☒ r_1(`A0F70E`)
- ☐ r_0(`5F245B`)
- ☐ h(`leaner`)
- ☐ r_2(`BABFA6`)
- ☐ r_0(`F3B243`)
- ☐ h(`gunsmith`)