

Exercícios sobre pilha e subrotinas

① Função B)

Endereço	Conteúdo
0x7010	0x05
0x7008	0x01
0x7000	0x03
0x6FF8	0x0E
0x6FF0	0x07

A) ① 1 2 3 4 5 6 7 8 9

B) 0x1 2 3 4 5 6 7 8 9

C) ① 1 2 3 4 5 6 7 8 9

D) ① 1 2 3 4 5 6 7 8 9

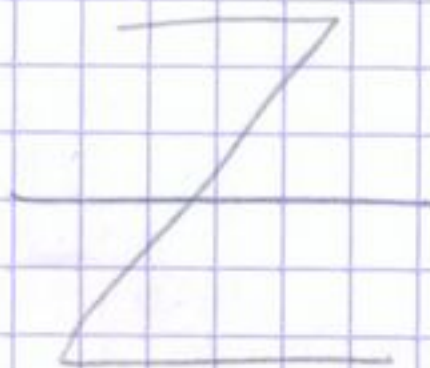
X2 = 0x0E

③ a) A sub-rotina POLI devolve em X0 o valor resultante da soma entre o quadrado do valor inicial em X0, o produto do valor inicial de X0 por 3, e 1. Ou seja: $X0^2 + 3 \cdot X0 + 1$

b) *** \rightarrow stp X29, X30, [SP, #-16]!
mov X29, SP

*** \rightarrow ldp X29, X30, [SP], #16

e) Antes de <1>: contém os valores dos registros X29 e X30
Antes de <2>: não contém nada.



- test
- global b424a
- type b424a, %function:

8424a: stp x29, x30, [sp, #-16]!

acid ^{conc} H_2SO_4 V_2O_5 SP
Odrb W_2XO_7 #1

cbg w2, film

str w2 [SP, # - 16]!

firm: $\text{cbz} \times 1, \text{move} \sim \text{firm}$

sub. X_1, X_2, \dots, X_n

Edz W2, LS#16

move - firm: $2dp \times 2^9, x30, [SP], \#16$
ret

元大

- b). test
 - global %4e4b
 - type %4e4b, "function"

64246: STP X29, X30, [SP, #-16]!

MOV	X29,	SP
MOV	X1,	0

```
MOV X1, #0
```

ciclo: LDRB w2, [x0], #1

ω_2 correto

CHP W21

B. eq initial
CVP 15

CMP	W2, 1
2	initial

B. 29 initial
CMP W2. 17

CMF	W ₀ , 1
B ₀ eq	initial

B. eg. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$
CMP w 2.11

B. eq. $\frac{W_2}{W_1} = \frac{C_2}{C_1}$

СД. 24. 2015
ИР. 22. 17

B. eq notes

СНР $\omega_2, \{1\}$

B. 29 caracteres.

cielo

initial: STR w2, [SP, #-16],

ADD X1, X1, #1

ciclo

curves: CBZ, X1, Salva
1000, 103, 1507

LDRB W3, [SP], #16

$x_1, x_1, \#1$

CHP W3, C
RBE Galla

Il ciclo

reton: CBZ X1, halpa

DRB W3. [SP] #

SUB X1, X1, #1

СМП ω_3, Γ_1

B.me Galva

8 cich.

chaves: CBZ x1, falta

DRB w 3; [3] # 16
SUB X1, X1, #1

UD	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20	X21	X22	X23	X24	X25	X26	X27	X28	X29	X30	X31	X32	X33	X34	X35	X36	X37	X38	X39	X40	X41	X42	X43	X44	X45	X46	X47	X48	X49	X50	X51	X52	X53	X54	X55	X56	X57	X58	X59	X60	X61	X62	X63	X64	X65	X66	X67	X68	X69	X70	X71	X72	X73	X74	X75	X76	X77	X78	X79	X80	X81	X82	X83	X84	X85	X86	X87	X88	X89	X90	X91	X92	X93	X94	X95	X96	X97	X98	X99	X100	X101	X102	X103	X104	X105	X106	X107	X108	X109	X110	X111	X112	X113	X114	X115	X116	X117	X118	X119	X120	X121	X122	X123	X124	X125	X126	X127	X128	X129	X130	X131	X132	X133	X134	X135	X136	X137	X138	X139	X140	X141	X142	X143	X144	X145	X146	X147	X148	X149	X150	X151	X152	X153	X154	X155	X156	X157	X158	X159	X160	X161	X162	X163	X164	X165	X166	X167	X168	X169	X170	X171	X172	X173	X174	X175	X176	X177	X178	X179	X180	X181	X182	X183	X184	X185	X186	X187	X188	X189	X190	X191	X192	X193	X194	X195	X196	X197	X198	X199	X200	X201	X202	X203	X204	X205	X206	X207	X208	X209	X210	X211	X212	X213	X214	X215	X216	X217	X218	X219	X220	X221	X222	X223	X224	X225	X226	X227	X228	X229	X230	X231	X232	X233	X234	X235	X236	X237	X238	X239	X240	X241	X242	X243	X244	X245	X246	X247	X248	X249	X250	X251	X252	X253	X254	X255	X256	X257	X258	X259	X260	X261	X262	X263	X264	X265	X266	X267	X268	X269	X270	X271	X272	X273	X274	X275	X276	X277	X278	X279	X280	X281	X282	X283	X284	X285	X286	X287	X288	X289	X290	X291	X292	X293	X294	X295	X296	X297	X298	X299	X300	X301	X302	X303	X304	X305	X306	X307	X308	X309	X310	X311	X312	X313	X314	X315	X316	X317	X318	X319	X320	X321	X322	X323	X324	X325	X326	X327	X328	X329	X330	X331	X332	X333	X334	X335	X336	X337	X338	X339	X340	X341	X342	X343	X344	X345	X346	X347	X348	X349	X350	X351	X352	X353	X354	X355	X356	X357	X358	X359	X360	X361	X362	X363	X364	X365	X366	X367	X368	X369	X370	X371	X372	X373	X374	X375	X376	X377	X378	X379	X380	X381	X382	X383	X384	X385	X386	X387	X388	X389	X390	X391	X392	X393	X394	X395	X396	X397	X398	X399	X400	X401	X402	X403	X404	X405	X406	X407	X408	X409	X410	X411	X412	X413	X414	X415	X416	X417	X418	X419	X420	X421	X422	X423	X424	X425	X426	X427	X428	X429	X430	X431	X432	X433	X434	X435	X436	X437	X438	X439	X440	X441	X442	X443	X444	X445	X446	X447	X448	X449	X450	X451	X452	X453	X454	X455	X456	X457	X458	X459	X460	X461	X462	X463	X464	X465	X4
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3-m e 6 e 8 e
9 e 10 e 11 e

```

faller: MOV X0, #1
repter: CBZ X1, aim
        ADD SP, SP, #16
        SUB X1, X1, #1
        B repter
conote: MOV X0, #0

```

```

bim: LDP X29, X30, [SP], #16
      RET

```


5 a) $\text{extern int soma}(\overset{x_0}{\text{int } *a}, \overset{w_1}{\text{int } m}) \leftarrow \text{bcm C}$

```
.text
.global soma
.type soma, "function"
```

```
soma: STP X29, X30, [SP, #-16]!
      MOV X29, SP
      MOV X2, #0
ciclo: CBZ W1, fim
      LDR W3, [X0], #4
      ADD X2, X2, W3
      SUB W1, W1, #1
      B ciclo
fim:   MOV X0, X2
      RET
```

b) $\text{extern int media}(\overset{x_0}{\text{int } *a}, \overset{w_1}{\text{int } m}) \leftarrow \text{bcm C}$

```
.text
.global media
.type media, "function"
```

```
media: STP X29, X30, [SP, #-16]!
      MOV X29, SP
      STP X0, X1, [SP, #-16]!
      BL soma
      MOV X2, X0
      LDP X0, X1, [SP], #16
      SDIV X0, X2, X1
      LDP X29, X30, [SP], #16
      RET
```

e) $\text{extern int maxmed}(\overset{x_0}{\text{int } *a}, \overset{w_1}{\text{int } b}, \overset{x_2}{\text{int } *c}, \overset{w_3}{\text{int } d})$

```
.text
.global maxmed
.type maxmed, "function"
```

```
maxmed: STP X29, X30, [SP, #-16]!
      MOV X29, SP
      STP X20, X21, [SP, #-16]!
      MOV X20, X2
      MOV X21, X3
      BL media
      STR X22, [SP, #-16]!
      MOV X20, X0
      MOV X0, X20
      MOV X1, X21
      BL media
      CMP X0, X22
      B.GT fim
      MOV X0, X22
      LDP X20, X21, [SP], #16
      LDP X29, X30, [SP], #16
      RET
fim:   LDR X22, [SP], #16
```