Exercício 02:

Escrever um programa Assembly para escrever na memória RAM:

- iniciando no endereço 0x0210, as letras maiúsculas do alfabeto
- Iniciando no endereço 0x0240, os valores decimais (BCD), de 15 a 50

0x0200																
0x0210	A	B	C	D	E	F	G	Η	1	J	K	L	M	N	0	P
0x0220	Q	R	S	T	U	V	W	X	Y	Z						
0x0230																
0x0240	<i>15</i>	16	17	18	19	20	21	22	23	24	25	26	27	28	29	<i>30</i>
0x0250	31	32	33	34	35	36	37	38	39	40	41	42	<i>43</i>	44	<i>4</i> 5	46
0x0260	47	48	49	50												
0x0270																

Obs.: O programa deve ter duas subrotinas. Uma para escrever as letras e outra para escrever os números

TE124-Microcontroladores:

Assembly MSP430

Dec Hx Oct Char	Dec	Нх	Oct	Html	Chr		Dec	Нх	Oct	Html	Chr	Dec	Нх	Oct	Html C	hr_
0 0 000 NUL (null)	32	20	040		Spa	içe	- 4-	40-	100	6#64 :	0	96	60	140	`	
l l 001 <mark>SOH</mark> (start of heading)	33	21	041	!	1		65	41	101	a#65;	A	97	61	141	a#97;	a
2 2 002 <mark>STX</mark> (start of text)	34	22	042	@#3 4 ;	rr .		66	42	102	@#66;	В	98	62	142	۵#98;	b
3 3 003 ETX (end of text)	35	23	043	#	#		67			C					~~~~	C
4 4 004 <mark>EOT</mark> (end of transmission)	36	24	044	\$	\$		68				100				d	
5 5 005 <mark>ENQ</mark> (enquiry)	37			%		:				a#69;					e	
6 6 006 <mark>ACK</mark> (acknowledge)	38			@#38;			70								a#102;	
7 7 007 BEL (bell)	39	27	047	'	1		71			G		10000			g	
8 8 010 <mark>BS</mark> (backspace)	40	28	050	&# 4 0;	(i	72				- 1000				h	
9 9 011 TAB (horizontal tab)	41)		ŀ.	73								i	
10 A 012 LF (NL line feed, new line				&#42;</td><td></td><td>١.</td><td>74</td><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td>j</td><td></td></tr><tr><td>ll B 013 VT (vertical tab)</td><td>0.000</td><td></td><td></td><td>&#43;</td><td></td><td></td><td>75</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>k</td><td></td></tr><tr><td>12 C 014 FF (NP form feed, new page</td><td></td><td></td><td></td><td>,</td><td></td><td>Н</td><td>76</td><td>700</td><td></td><td></td><td></td><td></td><td></td><td></td><td>a#108;</td><td></td></tr><tr><td>13 D 015 CR (carriage return)</td><td>100000</td><td></td><td>A</td><td>&#45;</td><td></td><td>L</td><td>77</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>a#109;</td><td></td></tr><tr><td>14 E 016 <mark>50</mark> (shift out)</td><td>46</td><td>2E</td><td>056</td><td>&#46;</td><td></td><td></td><td>78</td><td></td><td></td><td>N</td><td>100</td><td></td><td></td><td></td><td>n</td><td></td></tr><tr><td>15 F 017 <mark>SI</mark> (shift in)</td><td>47</td><td>2F</td><td>057</td><td>&#47;</td><td>1</td><td></td><td>79</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>o</td><td></td></tr><tr><td>16 10 020 DLE (data link escape)</td><td></td><td></td><td></td><td>e#48;</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>@#112;</td><td></td></tr><tr><td>17 11 021 DC1 (device control 1)</td><td></td><td></td><td></td><td>&#49;</td><td></td><td></td><td>100000000000000000000000000000000000000</td><td></td><td></td><td>@#81;</td><td></td><td></td><td></td><td></td><td>q</td><td></td></tr><tr><td>18 12 022 DC2 (device control 2)</td><td></td><td></td><td></td><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>e#114;</td><td></td></tr><tr><td>19 13 023 DC3 (device control 3)</td><td>100</td><td></td><td></td><td>3</td><td></td><td>•</td><td>83</td><td>53</td><td>123</td><td>@#83;</td><td>S</td><td>115</td><td>73</td><td>163</td><td>@#115;</td><td>8</td></tr><tr><td>20 14 024 DC4 (device control 4)</td><td>52</td><td>34</td><td>064</td><td>4</td><td>4</td><td></td><td>84</td><td>54</td><td>124</td><td>@#84;</td><td>T</td><td>116</td><td>74</td><td>164</td><td>a#116;</td><td>t</td></tr><tr><td>21 15 025 <mark>NAK</mark> (negative acknowledge)</td><td></td><td></td><td></td><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>u</td><td></td></tr><tr><td>22 16 026 <mark>SYN</mark> (synchronous idle)</td><td></td><td></td><td></td><td>4;</td><td></td><td></td><td>86</td><td>56</td><td>126</td><td>a#86;</td><td>V</td><td>118</td><td>76</td><td>166</td><td>a#118;</td><td>V</td></tr><tr><td>23 17 027 ETB (end of trans. block)</td><td>55</td><td>37</td><td>067</td><td>7</td><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>77</td><td>167</td><td>@#119;</td><td>W</td></tr><tr><td>24 18 030 <mark>CAN</mark> (cancel)</td><td>100 000</td><td></td><td></td><td>8</td><td></td><td></td><td>88</td><td>58</td><td>130</td><td>6#88;</td><td>X</td><td>120</td><td>78</td><td>170</td><td>a#120;</td><td>X</td></tr><tr><td>25 19 031 <mark>EM</mark> (end of medium)</td><td>57</td><td>39</td><td>071</td><td>9</td><td>9</td><td></td><td>89</td><td>59</td><td>131</td><td>@#89;</td><td>Y</td><td>121</td><td>79</td><td>171</td><td>y</td><td>Y</td></tr><tr><td>26 1A 032 <mark>SUB</mark> (substitute)</td><td>58</td><td>ЗА</td><td>072</td><td>:</td><td>:</td><td></td><td>90</td><td>5A</td><td>132</td><td>@#90;</td><td>Z</td><td>122</td><td>7A</td><td>172</td><td>@#122;</td><td>Z</td></tr><tr><td>27 1B 033 <mark>ESC</mark> (escape)</td><td>59</td><td>ЗВ</td><td>073</td><td>&#59;</td><td>2</td><td></td><td>71</td><td>5B</td><td>135</td><td>&#91,</td><td>[</td><td>123</td><td>7B</td><td>173</td><td>{</td><td>{</td></tr><tr><td>28 1C 034 <mark>FS</mark> (file separator)</td><td>60</td><td>30</td><td>074</td><td><</td><td><</td><td></td><td>92</td><td>5C</td><td>134</td><td>@#92;</td><td>A.</td><td>124</td><td>7C</td><td>174</td><td>4;</td><td></td></tr><tr><td>29 1D 035 <mark>GS</mark> (group separator)</td><td>61</td><td>3D</td><td>075</td><td>=</td><td></td><td></td><td>93</td><td>5D</td><td>135</td><td>]</td><td>]</td><td>125</td><td>7D</td><td>175</td><td>}</td><td>(i) }</td></tr><tr><td>30 1E 036 <mark>RS</mark> (record separator)</td><td>62</td><td>ЗЕ</td><td>076</td><td>></td><td>></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>~</td><td></td></tr><tr><td>31 1F 037 <mark>US</mark> (unit separator)</td><td>63</td><td>ЗF</td><td>077</td><td>?</td><td>2</td><td></td><td>95</td><td>5F</td><td>137</td><td>&#95;</td><td>_</td><td>127</td><td>7F</td><td>177</td><td></td><td>DEL</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>tien be</td><td></td><td></td><td></td><td></td></tr></tbody></table>												

Source: www.LookupTables.com

R10: Contém o byte a ser armazenado

R12: Contém o endereço onde o byte será escrito (ponteiro)

