

	Fakülte/MYO	Mühendislik	Sınav	Vize	Numara	
	Bölüm/Program	Elektrik-Elektronik Müh.	Tarih	17/11/2014	Ad-Soyad	
	Ders	Bilg. Prog. Giriş	Süre	90 dk.	İmza	

SORULAR / CEVAPLAR

SORU 1	a) Verilen ifadeyi, bilgisayar dilinde kodlayınız. [8 puan]	b) $a=32$, $b=4$ ve $c=3$ için işlem sonucunu bulunuz. [8 puan]	c) Doğruluk tablosuna göre mantıksal ifadeyi yazınız. [9 puan]																																			
	$\sqrt[5]{a^2 + \sqrt{a + \frac{a+b}{\sqrt[3]{1 + \frac{1}{a+b}}}}}$	$(a/1/1/b^{1/2})^{(1/2)} + a/1/b * c^{1/2}$	<table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>Sonuç</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>1</td><td>1</td></tr> </tbody> </table>	A	B	C	Sonuç	0	0	0	1	0	0	1	1	0	1	0	0	0	1	1	0	1	0	0	1	1	0	1	1	1	1	0	1	1	1	1
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Cevap 1	$(a^2 + (a + (a+b) / (1 + 1/(a+b))^{(1/3)})^{.5})^{.2}$	14	A+B'
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SORU 2	Aşağıdaki akış diyagramının ekran çıktılarını, işlem adımlarını tabloda göstererek hesaplayınız. [25 puan]

Cevap 2	<table border="1"> <thead> <tr> <th>i</th> <th>j</th> <th>Koşul</th> <th>Eski a</th> <th>Yeni a</th> <th>Eski b</th> <th>Yeni b</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>5</td> <td>2>5</td> <td>4 , -1</td> <td></td> <td>2</td> <td>4</td> </tr> <tr> <td></td> <td>1</td> <td>2>1</td> <td>-1</td> <td>-1</td> <td>4 , 8</td> <td></td> </tr> <tr> <td>4</td> <td>5</td> <td>4>5</td> <td>4 , -5</td> <td></td> <td>8</td> <td>12</td> </tr> <tr> <td></td> <td>1</td> <td>4>1</td> <td>-5</td> <td>-5</td> <td>-12 , 48</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	i	j	Koşul	Eski a	Yeni a	Eski b	Yeni b	2	5	2>5	4 , -1		2	4		1	2>1	-1	-1	4 , 8		4	5	4>5	4 , -5		8	12		1	4>1	-5	-5	-12 , 48																							<p>Ekran çıktısı: -5 48</p>
	i	j	Koşul	Eski a	Yeni a	Eski b	Yeni b																																																			
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SORU 3	<p>Şekildeki devreye ait gerilim kaynağı ve direnç değerleri klavyeden girilmektedir. Buna göre devreden akan akımı (I), R5 direnci üzerindeki gerilim düşümünü ve harcanan gücü hesaplayıp ekrana yazdıran programın akış diyagramını çiziniz ve C dilinde kodlayınız. [15+10 puan]</p>		<p>Örnek ekran görüntüsü</p> <p>Gerilim (U): 12 R1 (ohm): 2 R2 (ohm): 2 R3 (ohm): 4 R4 (ohm): 4 R5 (ohm): 3</p> <p>I = 2.000000 (A) UR5 = 6.000000 (U) PR5 = 12.000000 (W)</p>

SORU 3		<pre> /* Cevap 3 */ #include <stdio.h> #include <conio.h> void main() { float E, R1, R2, R3, R4, R5, R12, R34, I, VR5, PR5; clrscr(); printf("Gerilim (V): ");scanf("%f", &E); printf("R1 (ohm): ");scanf("%f", &R1); printf("R2 (ohm): ");scanf("%f", &R2); printf("R3 (ohm): ");scanf("%f", &R3); printf("R4 (ohm): ");scanf("%f", &R4); printf("R5 (ohm): ");scanf("%f", &R5); R12=R1*R2/(R1+R2); R34=R3*R4/(R3+R4); I=E/(R12+R34+R5); VR5=I*R5; PR5=I*I*R5; printf("\nI= %0.6f (A)\n", I); printf("VR5= %0.6f (V)\n", VR5); printf("PR5= %0.6f (W)\n", PR5); getch(); } </pre>

SORU 4	<p>0-99 arasındaki basamakları toplamı Fibonacci sayısı olan sayıları, birer tane TAB aralığı bırakarak ekrana listeleyen programın akış diyagramını çiziniz ve C dilinde kodlayınız. [15+10 puan]</p> <p><i>Örnek: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55 ... gibi her terimi, kendinden önceki iki terimin toplamı olan seriye "Fibonacci serisi" denir.</i></p>	<p>Örnek ekran görüntüsü</p> <table border="1"> <tr> <td>1</td><td>2</td><td>3</td><td>5</td><td>8</td><td>13</td><td>21</td><td>34</td><td>55</td><td>89</td><td>144</td><td>233</td><td>377</td><td>610</td><td>987</td><td>1597</td><td>2584</td><td>4181</td><td>6768</td><td>10946</td><td>17713</td><td>28657</td><td>46370</td><td>75025</td><td>121393</td><td>196418</td><td>315487</td><td>511685</td><td>827188</td><td>1346263</td><td>2178309</td><td>3524536</td><td>5702827</td><td>9227465</td><td>14930352</td><td>24214709</td><td>39186201</td><td>63498514</td><td>102703176</td><td>167109645</td><td>271815221</td><td>439128680</td><td>711943881</td><td>1151821496</td><td>1874077876</td><td>3025909371</td><td>4900731767</td><td>7925621038</td><td>12838329613</td><td>20763956649</td><td>33602186262</td><td>54341505901</td><td>88043671163</td><td>142365313055</td><td>230778320208</td><td>373135661471</td><td>603914971679</td><td>987109125190</td><td>1612088208169</td><td>2633506919060</td><td>4255608999259</td><td>6989115909319</td><td>11418530861179</td><td>18740778764048</td><td>30517582311558</td><td>49662476605617</td><td>80890804817165</td><td>131546824414663</td><td>215475298531318</td><td>354224841170683</td><td>580602139110801</td><td>953675804389684</td><td>1563854376460485</td><td>2576896185696069</td><td>4216864060752953</td><td>6914337795650002</td><td>11309778571476027</td><td>18647618154268080</td><td>30776553216194107</td><td>50514566696163187</td><td>83773154842453194</td><td>139083720460713181</td><td>231707797813187185</td><td>381791368774640376</td><td>631456647988163561</td><td>1053140867207815537</td><td>1751375645486978723</td><td>2925724836635694494</td><td>4877096534132573717</td><td>8134662077472172640</td><td>13605298485616069357</td><td>22838529827111541179</td><td>38196009374737610536</td><td>63480321728749351715</td><td>107117332145817682149</td><td>180497653974567033864</td><td>303411411152384716008</td><td>513890704926951750162</td><td>867308136101538666071</td><td>1461219757074115417183</td><td>2500000000000000000000</td> </tr> </table>	1	2	3	5	8	13	21	34	55	89	144	233	377	610	987	1597	2584	4181	6768	10946	17713	28657	46370	75025	121393	196418	315487	511685	827188	1346263	2178309	3524536	5702827	9227465	14930352	24214709	39186201	63498514	102703176	167109645	271815221	439128680	711943881	1151821496	1874077876	3025909371	4900731767	7925621038	12838329613	20763956649	33602186262	54341505901	88043671163	142365313055	230778320208	373135661471	603914971679	987109125190	1612088208169	2633506919060	4255608999259	6989115909319	11418530861179	18740778764048	30517582311558	49662476605617	80890804817165	131546824414663	215475298531318	354224841170683	580602139110801	953675804389684	1563854376460485	2576896185696069	4216864060752953	6914337795650002	11309778571476027	18647618154268080	30776553216194107	50514566696163187	83773154842453194	139083720460713181	231707797813187185	381791368774640376	631456647988163561	1053140867207815537	1751375645486978723	2925724836635694494	4877096534132573717	8134662077472172640	13605298485616069357	22838529827111541179	38196009374737610536	63480321728749351715	107117332145817682149	180497653974567033864	303411411152384716008	513890704926951750162	867308136101538666071	1461219757074115417183	2500000000000000000000
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SORU 4		<pre> /* Cevap - 4 */ #include <stdio.h> #include <conio.h> void main() { int i, j, s; clrscr(); for(i=0; i<10; i++) for(j=0; j<10; j++) { s=i+j; if ((s==1) (s==2) (s==3) (s==5) (s==8) (s==13)) printf("%d\t", 10*i+j); } getch(); } </pre>