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Branch: MATHEMATICS AND COMPUTING

```
3 #include <stdio.h>
4 int main() {
5 int x = 5;
6 if (x > 5)
7 printf("A");
8 else if (x > 3)
9 printf("B");
10 else if (x > 2)
11 printf("C");
12 else
13 printf("D");
14 return 0;
15 }
16
17 /**
18 Output:B
19 */
20
21 /**Q 2. Switch Case Question:*/
22 #include <stdio.h>
23 int main() {
24 int num = 2;
25 switch (num) {
26 case 1:
27 printf("One ");
28 case 2:
29 printf("Two ");
30 case 3:
31 printf("Three ");
32 default:
33 printf("Default ");
34 }
35 return 0;
36 }
37 /**
38 Output: Two Three Default
39 */
40
41 //Q 3. Nested If-Else Question:
42 #include <stdio.h>
43 int main() {
44 int x = 5, y = 10;
45 if (x > 3) {
46 if (y > 5)
47 printf("A");
48 else
49 printf("B");
50
   } else {
51 printf("C");
52 }
53 return 0;
54 }
55
56 /**
57 Output: A
58 */
59
60 //Q 4. Ternary Operator Question with Nested Ternary Operators:
61 #include <stdio.h>
62 int main() {
63 int x = 5, y = 10, z = 15;
64 int result = (x > y) ? ((x > z) ? x : z) : ((y > z) ? y : z);
65 printf("%d", result);
66 return 0;
```

1 /**Q 1. If-Else Question:*/

```
67 }
 68
 69 /**
 70 Output: 15
 71
 72
 73 //Q 5. Ternary Operator Question with Character Comparison:
 74 #include <stdio.h>
 75 int main() {
 76 char grade = 'B';
 77 char result = (grade == 'A') ? 'P' : ((grade == 'B') ? 'Q' : 'R');
 78 printf("%c", result);
 79 return 0;
 80 }
 81 /**
 82 Output: Q
 83 */
 84
 85 //Q 6. Ternary Operator Question with Mixed Data Types:
 86 #include <stdio.h>
 87 int main() {
 88 int x = 5;
 89 char result = (x > 0) ? 'A' : 65;
 90 printf("%c", result);
 91 return 0;
 92
 93 /**
 94 Output: A
 95 */
 96
 97 //Q 7. Switch Case with Ranges
 98 #include <stdio.h>
99 int main() {
100 int score = 85;
101 switch (score / 10) {
102 case 9:
103 printf("A");
104 break;
105 case 8:
106 printf("B");
107 break;
108 case 7:
109 printf("C");
110 break;
111 case 6:
112 printf("D");
113 break;
114 default:
115 printf("F");
116
117 return 0;
118 }
119 /**
120 Output: B
121 */
122
123
124 //Q 8. Switch Case with Ranges
125 #include <stdio.h>
126 int main() {
127 char letter = 'J';
128 switch (letter) {
129 case 'A' ... 'D':
130 printf("Pass");
131 break;
132 case 'E' ... 'H':
```

```
133 printf("Average");
134 break;
135 default:
136 printf("Fail");
137
138 return 0;
139 }
140 /**
141 Output: Fail
142 */
143
144 //Q 9. Same range type but using If-else
145 #include <stdio.h>
146 int main() {
147 char letter = 'J';
148 if (letter >= 'A' && letter <= 'D') {
149 printf("Pass");
150 } else if (letter >= 'E' && letter <= 'H') {
151 printf("Average");
152 } else {
153 printf("Fail");
154 }
155 return 0;
156 }
157 /**
158 Output: Fail
159 */
160
161 //Q 10. Operator Precedence:
162 What is the result of the following expression?
163 int result = 5 + 10 * 2 / 2 - 3;
164
165 /**
166 Output: 12
167 */
168
169 /*
170\, Numbering mistake in the question bank after Q 10 Q 12 is there
171 */
172
173 //Q 12. Combining Logical Operators:
174 //What is the value of `result` in the following code?
175 int x = 5, y = 10, result;
176 result = (x > 3) \&\& (y < 15);
177
178 /**
179 Output: 1
180
181
    //Q 13. If-Else Statement:
182
183 //What will be the output of the following code?
184 int x = 10;
185 if (x > 5)
186 printf("A");
187 else if (x > 7)
188 printf("B");
189 else
190 printf("C");
191
192 /**
193 Output: A
194 */
195
196 //Q 14. Switch Case:
197 //What will be the output of the following code?
198 char grade = 'B';
```

```
199 switch (grade) {
200 case 'A':
201 printf("Excellent");
202 break;
203 case 'B':
204 printf("Good");
205 break;
206 case 'C':
207 printf("Average");
208 break;
209 default:
210 printf("Invalid grade");
211 }
212 /**
213 Output: Good
214 */
```