Structured Programming

Test 1, 29.10.2014, Group: A

*Each question has exactly **one correct** answer.*

Name: _____

ID: _____

1. What is the valid code in C that checks the following condition $10 < x < 100$?
   (a) `if(10 < x <= 100)`
   (b) `if((100 > x) && (x > 10))`
   (c) `if((100 >= x) && (x > 10))`
   (d) `while((100 >= x) && (x > 10))`
2. Which of the following expressions **is valid** in C?
   (a) `while(10 * 10)`
   (b) `for(x > 0; x-)`
   (c) `for(x = 1)`
   (d) neither
3. What will be the output after execution of the following code segment?

```
int a = 0;
printf(" %d ", printf(" %d", printf("%d", a)));
```

   (a) `2 1 0`
   (b) `0 1 2 3`
   (c) `0 1 2`
   (d) the code is invalid
4. What will be the output after execution of the following code segment?

```
int x = 4;
int y = 3/2 + 1/x + 1/2;
printf ("y = %03d\n", y);
```

   (a) `y = 1`
   (b) `y = 2.25`
   (c) `y = 1.00`
   (d) `y = 001`
5. What will be the value of x after the execution of the following code segment?

```
int x; for(x = 10; x >= 0; x--) {}
```

   (a) `0`
   (b) `1`
   (c) `-1`
   (d) `9`

6. Which of the following expressions will declare an array of 5 integers?

   (a) `pole int[5];`

   (b) `int pole[];`

   (c) `int pole[] = {1, 2, 3, 4, 5};`

   (d) `array int[5];`

7. What will be the output after the execution of the following code segment?

```
int x = 23;
switch(x) {
  case 1: printf("1"); break;
  case 23: printf("2"); break;
  case 123: printf("3"); break;
}
```

   (a) `123`

   (b) `1`

   (c) `23`

   (d) `2`

8. What is the result from the execution of the following code segment?

```
int a, b, d = 2; float c = 0;
for(a = 5, b = a--; a > 0, b < 10; a--, b++) c += 1 / d;
printf("%3.1f\n", c);
```

   (a) 2.5

   (b) 0.0

   (c) 2.0

   (d) 3.0

9. What will be the output after the execution of the following code segment?

```
if(1 <= x <= 2) printf("YES");
else printf("NO");
```

   (a) YES

   (b) NO

   (c) cannot predict, will depend on value of variable x

   (d) the code will produce a syntax error

10. Which from the following expressions does not result in 3.5 if the variables are declared as `int a=7, b=2;`

    (a) `a/(float)b`

    (b) `a*1./b`

    (c) `float(a)/b`

    (d) `(float)(a/b)`

Answer Key for Exam A

1. What is the valid code in C that checks the following condition $10 < x < 100$?

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   (b) `if((100 > x) && (x > 10))`

   [(c)] `if((100 >= x) && (x > 10))`

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2. Which of the following expressions **is valid** in C?

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   (a) `123`

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   (c) `23`

   [(d)] `2`

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    (c) `float(a)/b`

    [(d)] `(float)(a/b)`