

## Assignment-2 Solution

1. Which of the following statement is correct?
  - a) System software is dependent on application software
  - b) Application software is dependent on system software
  - c) Both are independent of each other
  - d) None of the above.

Solution: (b) System software is independent of the application software. Application software cannot run without the presence of system software.

2. Syntax error occurs when
  - a) The rules of grammar of the language is violated
  - b) The statements in the program have no meaning
  - c) The program gives wrong or undesired output
  - d) Some illegal operation (e.g. divide by zero) is done

Solution: (a) The rules of grammar of the language is violated

3. The execution of any C program is
  - a) Sequential
  - b) Parallel
  - c) Multi-threading
  - d) None of these

Solution: (a) The execution of C program is sequential.

4. We use the concept of function for the following reason
  - a) To use divide and conquer strategy
  - b) For code reusability
  - c) Enhances the logical clarity of the program
  - d) All of the above.

Solution: (d) All of the above.

5. Which of the following data type will throw an error on modulus operation (%)?
  - a) int
  - b) float
  - c) long int
  - d) None of the above

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Solution: (b) float will throw an error.

6. What will be the output of the program given below?

```
#include <stdio.h>
int main()
{
    x = 5;
    printf("%d", x);
    return 0;
}
```

- a) 5
- b) 0
- c) 101
- d) Compilation Error

Solution: (d) Variable 'x' is not declared in the scope. Hence compilation error.

7. What will be the output of the program given below?

```
#include<stdio.h>
int main()
{
    int a = 1; b = 5; c = 8;
    a = c/b;
    printf("%d", a);
    return 0;
}
```

- a) 1
- b) 1.6
- c) 0
- d) Compilation error

Solution: (d) While initializing the variables, ";" indicates the end of the line. Thus after initializing the variable 'a', the line ends. And 'b' and 'c'

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will be undeclared data type. So, the error will be “b and c are not declared in the scope”.

8. Which of the following variable is not allowed in C?

- a) \$abc\_123
- b) \_abc\$123
- c) \$abc&123
- d) \_abc\_123

Solution: (c) The special character ‘&’ is not allowed in C. Remaining variables are allowed.

9. What will be the output of the following program?

```
#include <stdio.h>
int main()
{
    int a = 45;
    float a = 54;
    printf("%d", a);
    return 0;
}
```

- a) 45
- b) 54
- c) 54.45
- d) Compilation error

Solution: (d) Since the variable ‘a’ is defined both as integer and as float, it results in an error.

10. What will be the output?

```
#include<stdio.h>
#define fun(x, m) (x*x - m*m)
int main()
{
    float i;
    i = 15.0/fun(4,2);
    printf("%f", i);
    return 0;
}
```

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- a) 1
- b) 1.250000
- c) 0
- d) Compilation error

Solution: (b) 1.250000

The pre-processing replaces  $\text{fun}(4,2)$  with  $(4*4 - 2*2)$ . Thus  $\text{fun}(4,2) = 16 - 4 = 12$ , so,  $i = 15.0/12 = 1.250000$