

1. What is the value of “x” after the following code is executed?

```
char n1 = 0xF1;
char n2 = 0x1F;
char x = 0;
x = n1 & n2;
```

2. What is the representation of the binary number 0000111111111111 in hexadecimal?

3. What is the representation of the number 0x1234 in binary?

4. What is the value of “x” after the operation below is executed?

```
x = 8 << 3;
```

5. What is the purpose of the “static” keyword?

6. What is the difference between “&” and “&&” operators?

7. Which of the following special symbols are allowed in a variable name?

- a. \* (asterisk)
- b. | (pipeline)
- c. \_ (underscore)
- d. - (minus)

8. Write a macro which calculates the number of seconds in a day.

9. What is the value of x?

```
#define Multiply (a, b) a*b
int op1 = 12, op2 = 5;
int x= 0;
x = Multiply(op1+1, op2+2);
```

10. What does the following function return?

```
int Func1(void)
{
    int a = 30;
    int b = 9 - a / 5;
    int c;
    c = b * 4;
    if (c > 10) {
        c = c - 10;
    }
    return c * (60 / a);
}
```

11. What is the value of "x" after the execution of the code below?

```
int x = 1, y = 2;
if (x == y)
y = x + 10;
x = y + 8;
x++;
```

12. What is the output of the code below?

```
int x;
for (x=0; x<5; x++);
printf("x=%d", x);
```

13. What is the output of the code below?

```
#include<stdio.h>
enum actor{
    SeanPenn=1,
    AlPacino,
    KevinSpacey,
    EdNorton
};

void main(){
    enum actor a=4;
    switch(a){
        case SeanPenn: printf("SP");
            break;
```

```
case AlPacino: printf("AP");
                break;
case KevinSpacey: printf("KS");
                break;
case EdNorton: printf("EN");
                break;
    }
}
```

14. Which of the following uses least amount of memory?

- a. struct s1{int x; int y;;}
- b. char m1[2][3];
- c. char c1[10];
- d. union un1{int u; int v;;}

15. What is a pointer? Declare a pointer to an integer.

16. Write the prototype of a function that has two parameters of type char and returns an integer.

17. Write a function which has 3 parameters as inputs:

*hour*: valid range/interval is [0...23],

*minute*: valid range/interval is [0...59],

*second*: valid range/interval is [0...59].

Based on the received parameters, the time shall be translated in seconds and returned by the function, only if all parameters are valid. In case that any of the received parameters (hour, minute, second) is out of range, the time in seconds shall not be calculated and the value -1 shall be returned by the function.

18. Write a program to identify the smallest value from an array of 10 numbers.

19. Write a program to swap two numbers.

20. Write a program to calculate the area of a rectangle.