

## Session 8 exercise

1. What will be output if you will compile and execute the following c code?

```
void main(){
    printf("%s",__DATE__);
}
```

- (a) Current system date
- (b) Current system date with time
- (c) null
- (d) Compiler error
- (e) None of these

4.

What will be the output of the program ?

```
#include<stdio.h>

int main()
{
    union a
    {
        int i;
        char ch[2];
    };
    union a u;
    u.ch[0]=3;
    u.ch[1]=2;
    printf("%d, %d, %d\n", u.ch[0], u.ch[1], u.i);
    return 0;
}
```

- A. 3, 2, 515
- B. 515, 2, 3
- C. 3, 2, 5
- D. 515, 515, 4

5.

```
#include<stdio.h>

int main()
{
    union var
    {
        int a, b;
    };
    union var v;
    v.a=10;
    v.b=20;
    printf("%d\n", v.a);
    return 0;
}
```

- A. 10
- B. 20
- C. 30
- D. 0

```
2. #define message "union is\
power of c"
void main(){
    printf("%s",message);
}
```

- (a) union is power of c
- (b) union ispower of c
- (c) union is Power of c
- (d) Compiler error
- (e) None of these

3.

What is the similarity between a structure, union and enumeration?

- A. All of them let you define new values
- B. All of them let you define new data types
- C. All of them let you define new pointers
- D. All of them let you define new structures

7.

Point out the error in the program?

```
struct emp
{
    int ecode;
    struct emp e;
};
```

- A. Error: in structure declaration
- B. Linker Error
- C. No Error
- D. None of above

8.

What is the output of the program given below ?

```
#include<stdio.h>
int main()
{
    enum status { pass, fail, atkt};
    enum status stud1, stud2, stud3;
    stud1 = pass;
    stud2 = atkt;
    stud3 = fail;
    printf("%d, %d, %d\n", stud1, stud2, stud3);
    return 0;
}
```

- A. 0, 1, 2
- B. 1, 2, 3
- C. 0, 2, 1
- D. 1, 3, 2

6.

```
#include<stdio.h>

int main()
{
    enum days {MON=-1, TUE, WED=6, THU, FRI, SAT};
    printf("%d, %d, %d, %d, %d, %d\n", MON, TUE, WED, THU, FRI, SAT);
    return 0;
}
```

- A. -1, 0, 1, 2, 3, 4      B. -1, 2, 6, 3, 4, 5  
C. -1, 0, 6, 2, 3, 4      D. -1, 0, 6, 7, 8, 9

10. What is the Output

```
main.s  main.c
1 //Prepared by Eng.Keroloes
2 #include <stdio.h>
3 struct status_type {
4     unsigned char delta_cts:1;
5     unsigned char delta_dsr:1;
6     unsigned char tr_edge:1;
7     unsigned char delta_rec:1;
8     unsigned char cts:1;
9     unsigned char dsr:1;
10    unsigned char ring:1;
11    unsigned char rec_line:1;
12 } status;
13 int main(int argc ,char**argv) {
14     status.cts = 1 ;
15     printf ("sizeof structure = %d",sizeof(status));
16     return 0 ;
17 }
18
```

9.

```
#include<stdio.h>
int main()
{
    struct emp
    {
        char name[20];
        int age;
        float sal;
    };
    struct emp e = {"Tiger"};
    printf("%d, %f\n", e.age, e.sal);
    return 0;
}
```

- A. 0, 0.000000      B. Garbage values  
C. Error      D. None of above

# Answers

1. Answer: (a)

Explanation:

\_\_DATE\_\_ is global identifier which returns current system date.

2. Answer: (b)

Explanation:

If you want to write macro constant in new line the end with the character \.

3. B

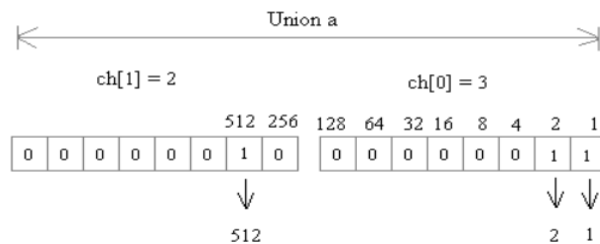
4.

Answer: Option A

Explanation:

The system will allocate 2 bytes for the union.

The statements `u.ch[0]=3; u.ch[1]=2;` store data in memory as given below.



So,  $512 + 2 + 1 = 515$

i = 515

5. B

6. D

7.

Answer: Option A

Explanation:

The structure `emp` contains a member `e` of the same type.(i.e) `struct emp`. At this stage compiler does not know the size of ststructure.

9. A

9.

Explanation:

When an automatic structure is partially initialized remaining elements are initialized to 0(zero).

Problems | AVR Supported MCUs  
<terminated> (exit value: 0) session2.exe [C/C++]  
sizeof structure = 1

Answer: Option C

Explanation:

enum takes the format like {0,1,2,...} so `pass=0`, `fail=1`, `atkt=2`

`stud1 = pass` (value is 0)

`stud2 = atkt` (value is 2)

`stud3 = fail` (value is 1)

Hence it prints 0, 2, 1