C Union(Questions)

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1) Size of a union is determined by size of the

a) First member in the union
b) Last member in the union
c) Biggest member in the union
d) Sum of the sizes of all members

2) Comment on the following union declaration?

```
1.  #include <stdio.h>
2.  union temp
3.  {
4.      int a;
5.      float b;
6.      char c;
7.  };
```

union temp s = {1,2.5,’A'}; //REF LINE
Which member of the union will be active after REF LINE?
a) a
b) b
c) c
d) Such declarations are illegal

3) What would be the size of the following union declaration?

```
1.  #include <stdio.h>
2.  union uTemp
3.  {
4.      double a;
5.      int b[10];
6.      char c;
7.  }u;
```

(Assuming size of double = 8, size of int = 4, size of char = 1)
a) 4

b) 8
c) 40
d) 80

4) What type of data is held by variable u int this C code?

```
1. #include <stdio.h>
2. union u_tag
3. {
4.     int ival;
5.     float fval;
6.     char *sval;
7. } u;
```

5) The variable u here

a) Will be large enough to hold the largest of the three types;
b) Will be large enough to hold the smallest of the three types;
c) Will be large enough to hold the all of the three types;
d) None of the mentioned

6) Members of a union are accessed as_____.

a) union-name.member
b) union-pointer->member
c) Both a & b
d) None of the mentioned

7) What is the output of this C code?

```
1. #include <stdio.h>
2. struct
3. {
4.     char *name;
5.     union
6.     {
```

```
7.          char *sval;
8.      } u;
9.  } symtab[10];
```

The first character of the string sval by either of
a) *symtab[i].u.sval
b) symtab[i].u.sval[0]
c) You cannot have union inside structure
d) Both a & b

8) What is the output of this C code(size of int and float is 4)?

```
1.  #include <stdio.h>
2.  union
3.  {
4.      int ival;
5.      float fval;
6.  } u;
7.  int main()
8.  {
9.      printf("%d", sizeof(u));
10.     return 0;
11. }
```

a) 16
b) 8
c) 4
d) 32

9) What is the output of this C code?

```
1.  #include <stdio.h>
2.  union stu
3.  {
```

```
4.      int ival;
5.      float fval;
6.  };
7.  int main()
8.  {
9.      union stu r;
10.     r.ival = 5;
11.     printf("%d", r.ival);
12.     return 0;
13. }
```

a) 9
b) Compile time error
c) 16
d) 5

10) What is the output of this C code?

```
1.  #include <stdio.h>
2.  union
3.  {
4.      int x;
5.      char y;
6.  }p;
7.  int main()
8.  {
9.      p.x = 10;
10.     printf("%d\n", sizeof(p));
11.     return 0;
```

```
12. }
```

a) Compile time error
b) sizeof(int) + sizeof(char)
c) Depends on the compiler
d) sizeof(int)

11) What is the output of this C code?

```
1. #include <stdio.h>
2. union
3. {
4.     int x;
5.     char y;
6. }p;
7. int main()
8. {
9.     p.y = 60;
10.    printf("%d\n", sizeof(p));
11. }
```

a) Compile time error
b) sizeof(int) + sizeof(char)
c) Depends on the compiler
d) sizeof(char)

12) What is the output of this C code?

```
1. #include <stdio.h>
2. union p
3. {
4.     int x;
5.     char y;
```

```
6.  };
7.  int main()
8.  {
9.      union p p, b;
10.     p.y = 60;
11.     b.x = 12;
12.     printf("%d\n", p.y);
13.     return 0;
14. }
```

a) Compile time error
b) Depends on the compiler
c) 60
d) Undefined behaviour

13) What is the output of this C code?

```
1.  #include <stdio.h>
2.  union p
3.  {
4.      int x;
5.      char y;
6.  }k = {1, 97};
7.  int main()
8.  {
9.      printf("%d\n", k.y);
10.     return 0;
11. }
```

a) Compile time error

b) 97
c) a
d) 1

14) What is the output of this C code?

```
1.  #include <stdio.h>
2.  union p
3.  {
4.      int x;
5.      char y;
6.  }k = {.y = 97};
7.  int main()
8.  {
9.      printf("%d\n", k.y);
10.     return 0;
11. }
```

a) Compile time error
b) 97
c) a
d) Depends on the standard

15) What is the output of this C code?

```
1.  #include <stdio.h>
2.  union p
3.  {
4.      int x;
5.      float y;
6.  };
7.  int main()
```

```
8.  {
9.      union p p, b;
10.     p.x = 10;
11.     printf("%f\n", p.y);
12.     return 0;
13. }
```

a) Compile time error
b) Implementation dependent
C) 10.000000
d) 0.000000

16) Which of the following share a similarity in syntax?

1. Union, 2. Structure, 3. Arrays and 4. Pointers

a) 3 and 4
b) 1 and 2
c) 1 and 3
d) 1, 3 and 4

17) What is the output of this C code?

```
1.  #include <stdio.h>
2.  union utemp
3.  {
4.      int a;
5.      double b;
6.      char c;
7.  }u;
8.  int main()
9.  {
10.     u.c = 'A';
11.     u.a = 1;
```

```
12.     printf("%d", sizeof(u));
13.  }
```

The output will be: (Assuming size of char = 1, int = 4, double = 8)
a) 1
b) 4
c) 8
d) 13

18) What is the output of this C code?

```
1.  #include <stdio.h>
2.  union utemp
3.  {
4.     int a;
5.    int b;
6.  }u;
7.  int main()
8.  {
9.     u.a = 97;
10.    u.b = 88;
11.    printf("u.a=%d",u.b=%d\n”,u.a,u.b);
12.    return 0;
13.  }
```

The output will be: (Assuming size of char = 1, int = 4, double = 8)
a) 97 88
b) 97 97
c) 97 garbage value
d) compilation error

19) What is the output of this C code?

```
1.  #include <stdio.h>
```

```
2.  union utemp
3.  {
4.      int a;
5.      char b;
6.  }u;
7.  int main()
8.  {
9.      u.a = 97;
10.     u.b = 'B';
11.     printf("%d", sizeof(u));
12.     return 0;
13. }
```

a) 1
b) 4
c) 5
d) None of the following