Structure Union

1. what is the ouput of following program

```c
#include <stdio.h>
int main()
{
    union values
    {
        unsigned char a;
        unsigned char b;
        unsigned int  c;
    };

    union values val;
    val.a=1;
    val.b=2;
    val.c=300;

    printf("%d,%d,%d",val.a,val.b,val.c);
    return 0;
}
```

Answers

1. 1 , 2 , 300

2. 2 , 2 , 300

3. 256 , 256 , 300

4. 44 , 44 , 300

2. Members of a union are accessed as_____.

Answers

1. union-name.member

2. union-pointer->member

3. Both a & b

4. None of the above

3. What will be output of c code?

```c
#include<stdio.h>
int main()
{
    struct bitfield
    {
        signed int a:3;
        unsigned int b:13;
        unsigned int c:1;
    }; struct bitfield bit1={2,14,1};

    printf("%d",sizeof(bit1));
    return 0;
}
```

Answers

1. 12

2. 2

3. 17

4. 4

4. What would be the size of the following union declaration?

```c
union uTemp
{
double a;
int b[10];
char c;
}u;
```

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

Answers

1. 80

2. 8

3. 4

4. 40

5. What is the output of C program with structures.?

```c
int main()
{
    struct tree
    {
        int h;
        int w;
    };
    struct tree tree1={10};
    printf("%d ",tree1.w);
    printf("%d",tree1.h);
    return 0;
}
```

Answers

1. 0,0

2. 0,10

3. 10,0

4. 10,10

6. What will be output of c code?

```c
#include<stdio.h>
int main() {
    struct bitfield {
        unsigned a:5;
        unsigned c:5;
        unsigned b:6;
    }bit;

    char *p;
    struct bitfield *ptr,bit1={1,3,3};

    p=&bit1;
    p++;

    printf("%d",*p);
    return 0;
}
```

Answers

1. 3

2. 12

3. 9

4. 4

7. what is the ouput of following program

```c
#include <stdio.h>
struct S {
    int Var;
    struct S *Str;
};
int main(void)
{
    struct S S[] = { { 8, NULL }, { 4, &S[0] }, { 2, &S[1] } };
    printf("%d", S[2].Str->Str->Var);
    return 0;
}
```

Answers

1. 4

2. 2

3. 8

4. NULL

8. what is the ouput of following program
```c
#include<stdio.h>
int main()
{
        struct temp
            {
                int a : 13;
                int b : 8;
                int c ;
            }s;
    printf("%d", sizeof(s));
    return 0;
}
```

Answers

1. 8

2. 12

3. 32

4. 20

9. Which of the following reduces the size of a structure?

Answers

1. union

2. bit-fields

3. malloc

4. none of the mentioned

10. what is the output of following program
```c
void main()
{
struct student
{
int no;
char name[20];
};
struct student s;
s.no = 8;
printf("%d", s.no);
}
```

Answers

1. Nothing

2. Compile Time Error

3. Junk

4. 8