

The source code and questions in the screening task and the main comprehension task

As described in Subsection 3.8, we prepared three versions of source code (Xp1, Xp2, and Xp3) for the screening task.

Code Pattern A questions

- A_v

Correct Answer: 3, 5

```
void main() {  
    int V1 = 2;  
    int V2 = 3 + V1++;  
    printf("%d, %d\n", V1, V2);  
}
```

☐ 2, 5
☐ 2, 6
☐ 3, 3
☐ 3, 5
☐ 3, 6

- A_c

Correct Answer: 3, 5

```
void main() {  
    int V1 = 2, V2;  
    V2 = V1 + 3;  
    V1++;  
    printf("%d, %d\n", V1, V2);  
}
```

☐ 2, 5
☐ 2, 6
☐ 3, 3
☐ 3, 5
☐ 3, 6

- A_{p1}

Correct Answer: 5

```
void main(){  
    int V1 = 5;  
    int V2 = V1++;  
    printf("%d\n", V2);  
}
```

☐ 4
☐ 5
☐ 6
☐ 7
☐ 8

- A_p2

Correct Answer: 7

```
void main(){  
    int V1 = 7;  
    int V2 = V1++;  
    printf("%d\n", V2);  
}
```

- ☐ 6
- ☐ 7
- ☐ 8
- ☐ 9
- ☐ 10

- A_p3

Correct Answer: 2

```
void main(){  
    int V1 = 2;  
    int V2 = V1++;  
    printf("%d\n", V2);  
}
```

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

Code Pattern B questions

- B_v

Correct Answer: true

```
void main() {  
    if (0 && 1 || 2) {  
        printf("true\n");  
    } else {  
        printf("false\n");  
    }  
}
```

- ☐ true
- ☐ false

- B_c

Correct Answer: true

```
void main() {  
    if ((2 && 0) || 5) {  
        printf("true");  
    } else {  
        printf("false");  
    }  
}
```

- ☐ true
☐ false

- B_{p1}

Correct Answer: true

```
void main(){  
    if (1 || 0 && 0){  
        printf("true\n");  
    }else{  
        printf("false\n");  
    }  
}
```

- ☐ true
☐ false

- B_{p2}

Correct Answer: true

```
void main(){  
    if ( 2|| 0 && 0){  
        printf("true\n");  
    }else{  
        printf("false\n");  
    }  
}
```

- ☐ true
☐ false

- B_p3

Correct Answer: true

<pre>void main(){ if (3 0 && 0){ printf("true\n"); }else{ printf("false\n"); } }</pre>	<p><input type="radio"/> true <input type="radio"/> false</p>
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Code Pattern C questions

- C_v

Correct Answer: false

<pre>void main() { int V1 = 0; if (V1 = 0) { printf("true\n"); } else { printf("false\n"); } }</pre>	<p><input type="radio"/> true <input type="radio"/> false</p>
---	---

- C_c

Correct Answer: false

<pre>void main() { int V1 = 0; V1 = 0; if (V1) { printf("true\n"); } else { printf("false\n"); } }</pre>	<p><input type="radio"/> true <input type="radio"/> false</p>
--	---

- Cp1

Correct Answer: true

```
void main(){
    int V1 = 2;

    if(V1 = 1){
        printf("true\n");
    }else{
        printf("false\n");
    }
}
```

- ☐ true
☐ false

- Cp2

Correct Answer: true

```
void main(){
    int V1 = 2;

    if(V1 = 3){
        printf("true\n");
    }else{
        printf("false\n");
    }
}
```

- ☐ true
☐ false

Code Pattern D questions

- Dv

Correct Answer: 5

```
void main() {
    int V1 = 261;

    char V2 = V1;

    printf("%d\n", V2);
}
```

- ☐ 0
☐ 1
☐ 5
☐ 256
☐ 261

- D_c

Correct Answer: 32

```
void main() {  
    int V1 = 288;  
  
    char V2 = V1 % 256;  
  
    printf("%d\n", V2);  
}
```

- ☐ 0
- ☐ 1
- ☐ 32
- ☐ 256
- ☐ 261

- D_{p1}

Correct Answer: 4, 4.5, 44

```
void main(){  
    int V1 = 3;  
    float V2 = 1.5f;  
    int V3 = V1 * V2;  
    float V4 = V1 * V2;  
    char V5 = V1 * 100;  
  
    printf("%d, %.1f, %d\n", V3, V4, V5);  
}
```

- ☐ 4, 4.5, 44
- ☐ 4, 4.5, 256
- ☐ 5, 4.0, 256
- ☐ 5, 4.5, 44
- ☐ 5, 5.0, 256

- D_{p2}

Correct Answer: 6, 6.6, 44

```
void main(){  
    int V1 = 3;  
    float V2 = 2.2f;  
    int V3 = V1 * V2;  
    float V4 = V1 * V2;  
    char V5 = V1 * 100;  
  
    printf("%d, %.1f, %d\n", V3, V4, V5);  
}
```

- ☐ 6, 6.6, 44
- ☐ 6, 6.6, 256
- ☐ 7, 6.0, 256
- ☐ 7, 6.6, 44
- ☐ 7, 7.0, 256

- D_p3

Correct Answer: 9, 9.9, 44

```
void main(){
    int V1 = 3;
    float V2 = 3.3f;
    int V3 = V1 * V2;
    float V4 = V1 * V2;
    char V5 = V1 * 100;

    printf("%d, %.1f, %d\n", V3, V4, V5);
}
```

- ☐ 9, 9.9, 44
- ☐ 9, 9.9, 256
- ☐ 10, 9.0, 256
- ☐ 10, 9.9, 44
- ☐ 10, 10.0, 256

Code Pattern E questions

- E_v

Correct Answer: false

```
void main(){
    int V1 = 10;
    int V2 = 3;
    if (! (V1 % V2)){
        printf("true\n");
    }
    else{
        printf("false\n");
    }
}
```

- ☐ true
- ☐ false

- E_c

Correct Answer: false

```
void main(){
    int V1 = 1, V2 = 2;
    if ( (V2 - V1) == 0){
        printf("true\n");
    }else{
        printf("false\n");
    }
}
```

- ☐ true
- ☐ false

- E_p1

Correct Answer: false

```
void main(){
    int V1 = 1;
    int V2 = -1;

    if(V1+V2){
        printf("true\n");
    }else{
        printf("false\n");
    }
}
```

☐ true
☐ false

- E_p2

Correct Answer: false

```
void main(){
    int V1 = -1;
    int V2 = 1;

    if(V1+V2){
        printf("true\n");
    }else{
        printf("false\n");
    }
}
```

☐ true
☐ false

- E_p3

Correct Answer: false

```
void main(){
    int V1 = 2;
    int V2 = -2;

    if(V1+V2){
        printf("true\n");
    }else{
        printf("false\n");
    }
}
```

☐ true
☐ false

Code Pattern F questions

• F_v

Correct Answer: 5, 3

```
void main() {  
    int V1 = 4;  
    int V2 = 0;  
  
    while (V2 < 3) V2++; V1++;  
  
    printf("%d, %d\n", V1, V2);  
}
```

- ☐ 5, 2
- ☐ 5, 3
- ☐ 6, 2
- ☐ 7, 2
- ☐ 7, 3

• F_c

Correct Answer: 8, 3

```
void main() {  
    int V1 = 7;  
    int V2 = 1;  
  
    while (V2 < 3) { V2++; } V1++;  
  
    printf("%d, %d\n", V1, V2);  
}
```

- ☐ 8, 1
- ☐ 8, 2
- ☐ 8, 3
- ☐ 9, 2
- ☐ 9, 3

• F_{p1}

Correct Answer: 2

```
void main() {  
    int V1 = 1;  
  
    if (V1 == 2) V1++; V1++;  
  
    printf("%d\n", V1);  
}
```

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4

• F_{p2}

Correct Answer: 3

```
void main() {  
    int V1 = 2;  
  
    if (V1 == 3) V1++; V1++;  
  
    printf("%d\n", V1);  
}
```

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

- F_p3

Correct Answer: 5

```
void main() {  
    int V1 = 4;  
  
    if (V1 == 3) V1++; V1++;  
  
    printf("%d\n", V1);  
}
```

- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7

Code Pattern G questions

- G_v

Correct Answer: 3

```
void main() {  
    int V1[] = {4, 7, 2, 3};  
    int *V2 = V1 + 1;  
    V2 = V2 + 2;  
    printf("%d\n", *V2);  
}
```

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 7

- G_c

Correct Answer: 4

```
void main() {  
    int V1[] = {3, 2, 9, 4};  
    int *V2 = &V1[1];  
    V2 = &V2[2];  
    printf("%d\n", *V2);  
}
```

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 9

- G_p1

Correct Answer: 2

```
void main() {  
    int V1[] = {4, 2, 7, 5};  
    int *V2 = V1 + 1;  
    printf("%d\n", *V2);  
}
```

- ☐ 1
- ☐ 2
- ☐ 4
- ☐ 5
- ☐ 7

- G_p2

Correct Answer: 3

```
void main() {  
    int V1[] = {5, 3, 4, 1};  
    int *V2 = V1 + 1;  
    printf("%d\n", *V2);  
}
```

- ☐ 1
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6

- G_p3

Correct Answer: 5

```
void main() {  
    int V1[] = {1, 3, 5, 7};  
    int *V2 = V1 + 2;  
    printf("%d\n", *V2);  
}
```

- ☐ 3
- ☐ 5
- ☐ 7
- ☐ 8
- ☐ 9

Code Pattern H questions

- H_v

Correct Answer: 7, 7

```
void main() {  
    int V1 = 3;  
    int V2 = (V1 = V1*2, V1 = V1+1);  
  
    printf("%d, %d\n", V1, V2);  
}
```

- ☐ 3,4
- ☐ 4,4
- ☐ 6,6
- ☐ 7,6
- ☐ 7,7

- H_c

Correct Answer: 2, 1

```
void main() {  
    int V1, V2;  
  
    V1 = 2;  
    V2 = 1;  
  
    printf("%d, %d\n", V1, V2);  
}
```

- ☐ 1, 1
- ☐ 1, 2
- ☐ 2, 1
- ☐ 2, 2
- ☐ 2, 3

- H_{p1}

Correct Answer: 1, 3

```
void main() {  
    int V1, V2;  
  
    V1 = (V2 = 3, 1);  
  
    printf("%d, %d\n", V1, V2);  
}
```

- ☐ 3,3
- ☐ 3,1
- ☐ 0,3
- ☐ 1,3
- ☐ 1,1

- H_p2

Correct Answer: 2, 1

```
void main() {  
    int V1, V2;  
  
    V1 = (V2 = 1, 2);  
  
    printf("%d, %d\n", V1, V2);  
}
```

- ☐ 0, 1
- ☐ 1, 1
- ☐ 1, 2
- ☐ 2, 1
- ☐ 2, 2

- H_p3

Correct Answer: 3, 2

```
void main() {  
    int V1, V2;  
  
    V1 = (V2 = 2, 3);  
  
    printf("%d, %d\n", V1, V2);  
}
```

- ☐ 0, 2
- ☐ 2, 2
- ☐ 2, 3
- ☐ 3, 2
- ☐ 3, 3