

1. Answers:

- a. 3
- b. 4
- c. 1
- d. 1
- e. 4

2. Code:

```
1  #include <stdio.h>
2  int main() {
3      int i = 120345, r;
4      int j;
5      while(i != 0){
6          r = i % 10;
7          if(r == 0)
8              printf("%d is zero\n", r);
9          else {
10             if(r % 2 == 0)
11                 printf("%d is even\n", r);
12             else
13                 printf("%d is odd\n", r);
14             }
15             i = i / 10;
16         }
17     return 0;
18 }
```

a.

```
1  #include <stdio.h>
2  int main() {
3      int i = 102030405, r;
4      int j;
5      while(i != 0){
6          r = i % 10;
7          if(r == 0)
8              printf("%d is zero\n", r);
9          else if(r % 2 == 0)
10             printf("%d is even\n", r);
11          else
12             printf("%d is odd\n", r);
13             i = i / 10;
14         }
15     return 0;
16 }
```

b.

3. Codes

```

1  #include <stdio.h>
2  int primenumber(int number){
3      int i;
4      for (i = 2; i <= number - 1; i++) {
5          if (number % i == 0)
6              return 0;
7      }
8      return 1;
9  }
10 int main(){
11     int num = 4, res;
12     res = primenumber(num);
13     if (res == 1)
14         printf("%d is a prime number", num);
15     else
16         printf("%d is not a prime number", num);
17     return 0;
18 }

```

a. Call by value

```

1  #include <stdio.h>
2  int primenumber(int number){
3      int i;
4      for (i = 2; i <= number / 2; i++) {
5          if (number % i != 0)
6              continue;
7          else
8              return 1;
9      }
10     return 0;
11 }
12 int main(){
13     int num = 27, res = 0;
14     res = primenumber(num);
15     if (res == 0)
16         printf("%d is a prime number", num);
17     else
18         printf("%d is not a prime number", num);
19 }

```

b. Call by value

c. Call by reference

```
1  #include <stdio.h>
2  int primenumber(int *number){//call by reference
3      int n = *number;
4      int i;
5      for(i=2;i<=n-1;i++){
6          if(n%i==0)
7              return 0;
8      }
9      return 1;
10 }
11 int main() {
12     int num = 13, res;
13     res = primenumber(&num);
14     if(res==0)
15         printf("Not prime");
16     else
17         printf("prime");
18     return 0;
19 }
```